

SCHOOL OF MEDICINE

UNIVERSITY
OF MARYLAND
AT BALTIMORE
1980-1981

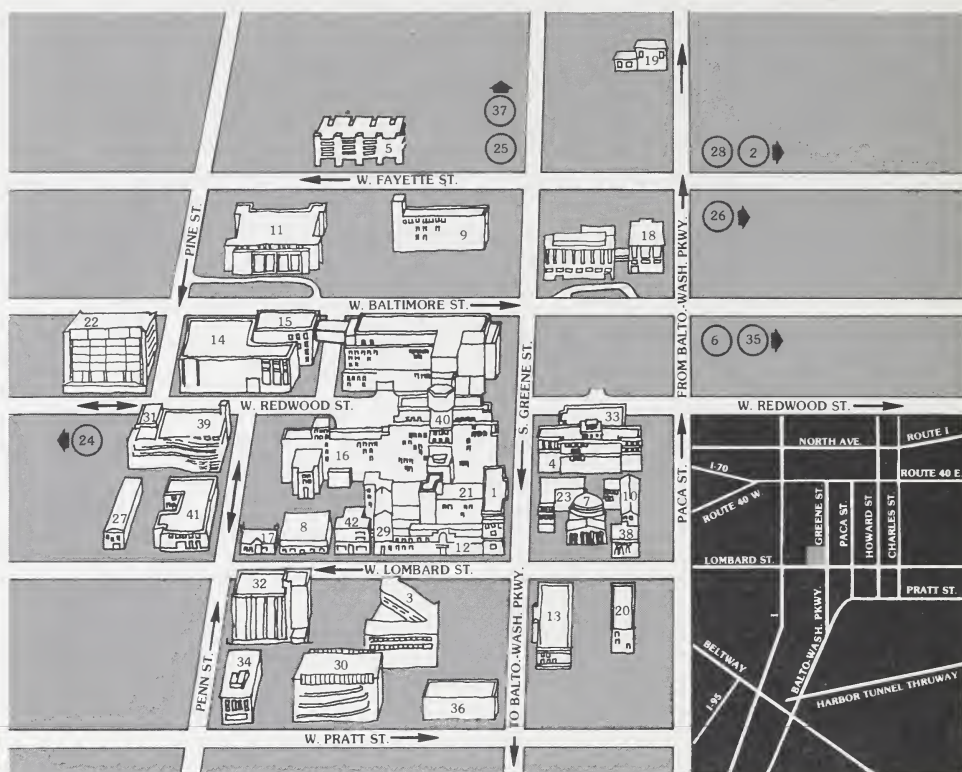


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CAMPUS MAP



BUILDING KEY, UNIVERSITY OF MARYLAND AT BALTIMORE

- Allied Health Professions Building, 32 S. Greene Street
Medical Technology, School of Pharmacy, Physical Therapy, Radiologic Technology classrooms, offices, laboratories.
- Alpha House, 828 N. Eutaw Street (off campus)
- Baltimore Union, 621 W. Lombard Street
Cafeteria, student housing, meeting rooms for students and faculty, lounges, game room, Synapse.
- Bressler Research Building, 29 S. Greene Street
Medical school research labs, Baltimore offices of the university's Board of Regents.
- Walter P. Carter Center, 630 W. Fayette Street
The university uses this facility jointly with the Inner City Mental Health Program and the State Department of Mental Hygiene.
- Community Pediatric Center, 412 W. Redwood Street (off campus)
Innovative program of comprehensive health care for children in southwestern health district. Federally funded.
- Davidge Hall, 522 W. Lombard Street
Built in 1812 and designed by Robert Carey Long Sr., who used the Pantheon in Rome as his model. The oldest building in the nation used continuously for medical education. The university's Medical Alumni Association plans to restore the building to its original state and open it to the public as a medical museum.
- Dunning Hall, 636 W. Lombard Street
School of Pharmacy classrooms and offices, drug manufacturing lab, poison information center.
- Fayette Street Garage, 633 W. Fayette Street
- Gray Laboratory, 520 Rear W. Lombard Street
Physical Therapy Office, Campus Police, Center for the Graduate Social Work Education of the Hearing Impaired.
- Hayden-Harris Hall, 666 W. Baltimore Street
Baltimore College of Dental Surgery, Dental School, clinics, classrooms, labs, offices.
- Health Sciences Computer Center, 610 W. Lombard Street
Computer Center, pharmacy school offices and labs, Medical Technology labs, Division of Clinical Investigation, Office of Student Affairs.
- Health Sciences Library, 111 S. Greene Street
Main library for all professional schools except the School of Law. Includes historical book collection and computerized circulation and information services.
- Howard Hall, 660 W. Redwood Street
Central Administration offices, medical school classrooms, offices, labs.
- Howard Hall Tower, 655 W. Baltimore Street
Medical school classrooms, offices, labs, Administrative offices of the medical school, including the office of dean and vice chancellor.
- Institute of Psychiatry and Human Behavior, 645 W. Redwood Street (E, F and G wings of the hospital)
The medical school's center for psychiatric teaching and research as well as inpatient and outpatient care.
- Kelly Memorial Building, 650 W. Lombard Street
Headquarters of Maryland Pharmaceutical Association. B. Olive Cole Museum.
- Lane Hall, 500 W. Baltimore Street
School of Law classrooms, offices, library, Developmental Disabilities Law Clinic.
- Legal Services Clinic, 116 N. Paca Street
- Lombard Building, 511 W. Lombard Street
Bookstore, University Relations.
- Maryland Institute for Emergency Medical Services, 22 S. Greene Street
The first major trauma program in the nation, combining multidisciplinary teaching and research with expert round-the-clock care for the critically ill and injured in the state.
- Medical School Teaching Facility, 10 S. Pine Street
Medical school classrooms, offices, research labs, animal facility, Office of Medical Education, Illustrative Services.
- Medical Technology Building, 31 S. Greene Street
Medical school offices, labs.
- Mencken House, 1524 Hollins Street (off campus)
- Methadone Program, 104 N. Greene Street (off campus)
- National Pituitary Agency, 210 W. Fayette Street (off campus)
Under contract with the National Institutes of Health, the University of Maryland administers the NPA, which is the official agency for collection and distribution of human pituitary hormones for research purposes.
- Newman Center, 712 W. Lombard Street
- Nilsson House, 826 N. Eutaw Street (off campus)
- Parsons Residence Hall for Women, 622 W. Lombard Street
- Pratt Street Garage and Athletic Facility, 646 W. Pratt Street
- Redwood Hall, 721 W. Redwood Street
Division of Alcoholism and Drug Abuse offices, clinical areas.
- School of Nursing Building, 655 W. Lombard Street
Nursing school classrooms, offices.
- School of Social Work and Administration Building, 525 W. Redwood Street
Office of the chancellor. School of Social Work and Community Planning classrooms, offices.
- State Medical Examiner's Building, 111 Penn Street
- Stroke Center, 412 W. Redwood Street (off campus)
- Temporary Academic Building, 601 Rear W. Lombard Street
School of Social Work and Community Planning classrooms, offices.
- Tuerk House, 106 N. Greene Street (off campus)
Residential facility for alcoholism programs of the University of Maryland Hospital. (Also Alpha and Nilsson Houses.)
- University College, 520 W. Lombard Street
Offers degree and non-degree educational programs. Juvenile Law Clinic.
- University Garage, 701 W. Redwood Street
Helistop.
- University of Maryland Hospital, 22 S. Greene Street
- Western Health Clinic, 700 W. Lombard Street
- Whitehurst Hall, 624 W. Lombard Street
Graduate School office, nursing, pharmacy, social work and community planning offices, classrooms.

The campus has since January 1975 attempted to identify and eliminate as rapidly as possible and wherever feasible, physical barriers and safety hazards to handicapped persons involving campus buildings, parking places and other facilities.

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CALENDAR

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE 1980-1981 ACADEMIC CALENDAR

Fall Semester 1980

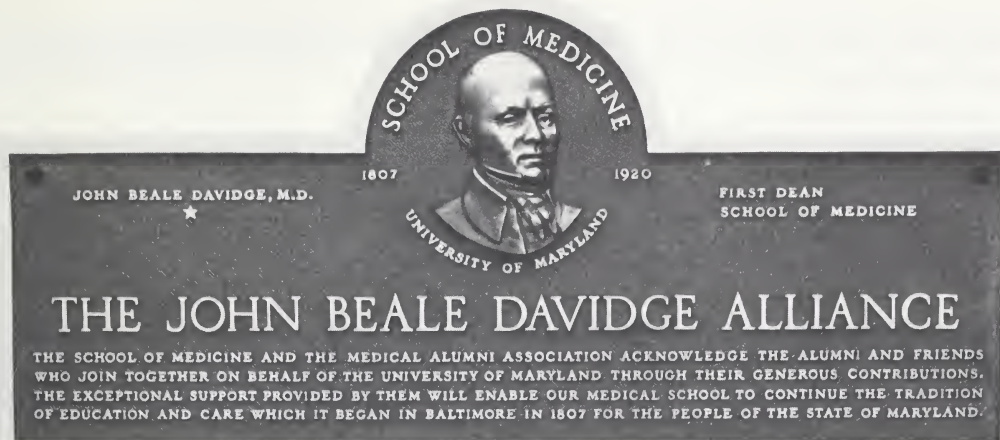
August 21-26	Thursday-Tuesday	Arena Registration
August 27	Wednesday	Instruction Begins
September 1	Monday	HOLIDAY — Labor Day
November 3-14	Monday-Friday	Preregistration for Winter and Spring
November 27-28	Thursday-Friday	HOLIDAY — Thanksgiving
December 12	Friday	Instruction Ends
December 15-19	Monday-Friday	Examinations
December 19	Friday	Semester Ends

Winter Session 1981

January 5	Monday	Arena Registration
		Instruction Begins
January 15	Thursday	HOLIDAY — Martin Luther King's Birthday
January 30	Friday	Winter Session Ends

Spring Semester 1981

January 30	Friday	Arena Registration
February 2	Monday	Instruction Begins
February 23	Monday	HOLIDAY — Washington's Birthday
April 13-17	Monday-Friday	Spring Vacation
May 22	Friday	Instruction Ends
May 25-28	Monday-Thursday	Examinations
May 28	Thursday	Semester Ends
May 29	Friday	Commencement — 3:00 p.m.
June 1	Monday	HOLIDAY — Memorial Day



THE JOHN BEALE DAVIDGE ALLIANCE

To recognize alumni and friends who have made generous contributions, the School of Medicine and the Medical Alumni Association founded the John Beale Davidge Alliance. The exceptional support provided by its members enables the medical school to continue the tradition of education and care which it began in 1807 for the people of the state of Maryland under the leadership of Dr. John Beale Davidge, first dean of the School of Medicine.

Members may elect to enjoy a simultaneous membership in the Presidents Club of the University of Maryland system. By so doing, they obtain life membership and permanent recognition from the University's Presidents Club.

A plaque in Howard Hall Tower, near the lobby entrance to the lecture halls for freshmen and sophomore medical students, lists the members of the John Beale Davidge Alliance.

Dr. James R. Appleton
 Dr. Marvin S. Arons
 Dr. and Mrs. Frederick J. Balsam
 Miss Mary Arden Batch
 Dr. Herbert Berger
 Dr. and Mrs. Grafton R. Brown
 Dr. Joseph W. Cavallaro
 Dr. Cornelia P. Channing
 Dr. and Mrs. Elwood A. Cobey
 Mr. and Mrs. William W. Cobey
 Dr. Eva F. Dodge
 Mr. and Mrs. Alvin B. Filbert
 Dr. Abraham H. Finkelstein
 Dr. Jose R. Fuentes
 Dr. Eli Galitz
 Dr. Richard M. Galitz
 Dr. and Mrs. Joseph B. Ganey
 Miss Dorothy Getz
 Dr. Charles E. Gill
 Dr. Julius E. Gross
 Miss Anna Gudelsky
 Mrs. Bertha Gudelsky
 Mr. and Mrs. Erwin Gudelsky
 Mr. and Mrs. Homer Gudelsky
 Dr. Meredith S. Hale
 Dr. Wilson A. Heefner

Dr. W. Ray Hepner, Jr.
 Dr. Bernard S. Kleiman
 Dr. Jeffrey A. Kleiman
 Dr. and Mrs. John C. Krantz, Jr.
 Dr. Byruth K. Lenson-Lambros
 Dr. Herbert M. Marton
 Mr. and Mrs. Leonard Mathias
 Dr. Frederick W. Plugge, IV
 Dr. Ramon F. Roig, Jr.
 Dr. Robert L. Rudolph
 Dr. Wallace H. Sadowsky
 Dr. William M. Seabold
 Dr. Albert Shapiro
 Mr. Richard Singer
 Dr. and Mrs. Morton Schwartz
 Dr. Benjamin M. Stein
 Dr. Douglas Stein
 Dr. Samuel Steinberg
 The Jimmie Swartz Foundation
 Dr. Rufus Thames
 Dr. Max Trubek
 Dr. H. Leonard Warres
 Dr. Hans R. Wilhelmsen
 Dr. William I. Wolfe
 Dr. Celeste L. Woodward
 Dr. Theodore E. Woodward

SCHOOL OF MEDICINE ENDOWED DISTINGUISHED LECTURES

Name of Lecture	Area
Thurston R. Adams	Surgery
Herbert Berger	Internal Medicine
Myer and Etta Dana	Psychiatry
C. Reid Edwards	Surgery
Julius Friedenwald	Medicine
Abraham H. Finkelstein Memorial	Pediatrics
Charles Getz	Medicine
Bernard S. Kleiman	Otolaryngology
Stephen E. and Jeffrey A. Kleiman	Dental School & School of Medicine
John C. Krantz	Pharmacology & Experimental Therapeutics
Nicholas C. and Helen K. Mueller	Surgery
Maurice C. Pincoffs	Medicine
Joseph E. Smadel	Medicine
Samuel Steinberg and H. Boyd Wylie	Biochemistry
Henry J. Walton	Radiology
H. Leonard Warres	Radiology

SCHOOL OF MEDICINE DISTINGUISHED LECTURES

Name of Lecture	Area
Alice Messinger Band	Hematology
Robert Buxton	Surgery
Frank C. Marino	Surgery
Herbert L. Moseley, Jr. Memorial	Primary Care

HERBERT BERGER CHAIR IN MEDICINE ENDOWMENT

The Herbert Berger Chair in Medicine is being made possible through a Charitable Remainder Trust established by Dr. and Mrs. Berger. Future income from the trust will provide supplemental support for a faculty position or positions in the Department of Medicine.

PROFILE



THE SCHOOL

The University of Maryland School of Medicine, the fifth medical school to be founded in the United States, was established in 1807 by the General Assembly of the State of Maryland. The principles upon which the school was established have not changed, as they were stated in the Founding Act: "Be It Enacted . . . That a College . . . by the name of the College of Medicine of Maryland, be established . . . upon the following fundamental principles . . . The said College shall be founded and maintained forever upon a most liberal plan, for the benefit of students of every country and every religious denomination, who shall be freely admitted to equal privileges and advantages of education, and to all the honors of the college, according to their merit, without requiring or enforcing any religious or civil tests." The school was integrated racially almost from its inception, and women were first admitted in 1921.

A Board of Regents was selected, and Dr. John Beale Davidge, one of the founders, was appointed as the first dean of the new school. Under his farsighted leadership, a new concept of medical education was formed: "The science of medicine could not be successfully taught under the usual organization of medical schools; that without the aids of physiology and pathology, either associated with anatomy or as a separate chair of institutes, the philosophy of the body in sickness or in health could not be understood."

At the end of 1807, a medical school existed in Baltimore with officers and faculty, but without buildings or funds. Dr. Davidge and his small faculty continued to teach in their own homes, as they had been doing prior to the official Founding Act. From the beginning, strong emphasis was placed on bedside teaching, with the first class of seven students receiving clinical instruction at the Baltimore Almshouse, a workhouse and infirmary for the poor. This emphasis has continued over the years, and the concept of direct patient contact remains important today.

A lottery was authorized to finance building, but it was largely due to the enthusiasm and dedication of early faculty members and interested Baltimore citizens that the College of Medicine was able to establish a campus. Land was purchased from Col. John Eager Howard, Revolutionary War hero and former governor, for the sum of \$10,000 of which Col. Howard donated \$1,000. The lot, at what is now Lombard and Greene Streets, was then on the outskirts of town affording a clear view of the Patapsco River. Its remote site was considered an advantage since the public was violently opposed to dissection of the human body, as Dr. Davidge was well aware, having had his own small anatomic theater destroyed several years previously by an angry mob.

The first building, now known as Davidge Hall, was constructed on the lot in 1812, and is the oldest building in the United States used continuously for medical education. Its architect, Robert Carey Long, Sr., used the Pantheon in Rome as his model for the building. In spite of remodeling throughout the years, some of the dissecting "cubbyholes" still remain, along with secret stairways and hidden exits which afforded both students and professors safe passage from angry mobs. Plans call for Davidge Hall to be fully restored to its original state and maintained as a medical museum.

In 1823, the Baltimore Infirmary, the forerunner of the University of Maryland Hospital, was built across from Davidge Hall. The school was one of the first in the country to build its own hospital for clinical instruction; and it was here that intramural residencies for senior students were first established. This building was still in active use until 1973, when all the clinics located there were moved into the new addition to the University of Maryland Hospital.

Through the years, there have been many firsts at the School of Medicine. One of the early faculty members, Dr. John Crawford, who had been the first to vaccinate Baltimoreans against smallpox in 1800, presented evidence as early as 1810 that tuberculosis was contagious. His personal library became the nucleus of the medical school library, one of the oldest in the country. In 1839, the Baltimore College of Dental Surgery was incorporated, the first such school to be established in the world. The techniques of auscultation and percussion were taught here for the first time in America as early as 1841; and in 1844, Dr. David Stewart, the first professor of pharmacy in the United States, initiated his lectures at Maryland.

From the beginning, the study of human anatomy was recognized as basic in medical education, but the public outcry and the difficulty in obtaining bodies limited dissection. Still, in 1848, Maryland became the first medical school to make anatomical dissection a required course. Six years later, compulsory courses in experimental physiology and microscopy were introduced. A milestone in cancer research occurred in 1853, when Dr. Francis Donaldson became the first person in America to advocate biopsy and microscopic diagnosis of malignancy. Maryland was the first to establish chairs in the diseases of women and children (1867), and diseases of the eye and ear (1873).

Mergers with the Baltimore Medical College in 1913 and the College of Physicians and Surgeons in 1915 provided the University of Maryland School of Medicine with greatly expanded faculty and clinical facilities. In 1920, the state university was established when the professional schools in Baltimore merged with the Maryland State College of Agriculture in College Park and the state assumed financial obligation for all the schools.

THE CAMPUS

Today, the School of Medicine is part of a professional campus located on 31 acres in downtown Baltimore. This campus, comprising the schools of dentistry, law, medicine, nursing, pharmacy, social work and community planning, in addition to the Graduate School and University of Maryland Hospital, offers the medical student a unique opportunity to participate in the growing number of interdisciplinary educational programs carried out among the professional schools. An interprofessional Task Force on Aging was formed in 1978 in an effort to stimulate and coordinate geriatric educational activities among the six professional schools.

Plans are underway for an intensive expansion of the primary care programs, a multidisciplinary effort under the leadership of the vice chancellor for health affairs, that includes increased utilization of a number of primary care education centers throughout the state, located in inner city and rural communities. Students from the schools of dentistry, medicine, nursing, pharmacy, and social work and community planning have an opportunity to participate in the educational experiences offered in these centers.

In the last several years, the School of Medicine has opened two new teaching/research buildings which have greatly expanded its facilities, including a total of three lecture halls, a sophisticated media library and TV studio, numerous small group classrooms as well as extensive laboratory space to accommodate the full-range of research presently being conducted.

The UMAB campus is also in the midst of a physical expansion program. The Law School is slated to open its new Library in Fall 1980 and the School of Pharmacy has recently broken ground for its new home. Furthermore, construction is scheduled to begin in 1980 for the new Baltimore Veterans Administration Medical Center which will be built across from the University of Maryland Hospital on Baltimore Street, contributing greatly to the growing resources available to the medical student.



THE CITY

Statistically, Baltimore is the largest city in Maryland, the seventh most populous in the nation, and site of the country's fourth largest foreign-commerce seaport. The Baltimore region has much to offer the student, from the sophistication and culture of a large, metropolitan city, to the beauty and leisure of the waterfront and rural areas that surround it.

Having been the location of many significant events in the nation's history, including the writing of the national anthem, Baltimore maintains a strong feeling for the past as typified by the many charming neighborhoods of restored houses and abundance of historic buildings.

And yet Baltimore has become increasingly forward-thinking, and is making outstanding progress in the revitalization and rebirth of its downtown area. A prime example is Charles Center, one of the early models for urban planning in the country, which incorporates a theater, hotel, shops, and a series of plazas and elevated walkways that are used as settings for frequent fairs, concerts, art shows and festivals. Even closer to campus, one of the most exciting renovations is taking place in the inner harbor. When completed, some 240 acres surrounding the busy port will be redeveloped to include office buildings, apartments, schools, parks, recreational facilities — in all, an entirely new living and working complex.

As a cultural center, Baltimore has offerings to please the most discriminating. It possesses an excellent symphony, a professional opera company, many professional and semi-professional theaters, the Peabody Conservatory of Music, outstanding museums, excellent libraries, and historical and scientific societies, the newest of which is the Maryland Academy of Sciences Center that opened in the inner harbor area in 1976.

Sports fans, too, have a lot to savor in Baltimore thanks to the wide range of professional and collegiate teams. The city is famous, of course, for the Orioles and the Colts, but both spectators and participants will also find excellent hockey, soccer, lacrosse, basketball, horseracing, golf and tennis close at hand. Also nearby is the Chesapeake Bay, offering numerous water sports and the seafood for which Baltimore is famous.



RESOURCES



THE UNIVERSITY OF MARYLAND HOSPITAL

The University of Maryland Hospital, one of the nation's first teaching hospitals, provides the primary clinical setting for the University of Maryland School of Medicine. A public not-for-profit institution, the hospital is dedicated to providing quality health care for the people of Maryland, to preparing men and women for the practice of medicine and the allied health professions, and to carrying out research to improve the quality of health care.

While the science of medicine can be taught in the classroom, the art of medicine must be learned where it is actually practiced. In the United States, the tradition of physicians training their successors in a hospital setting was born at the University of Maryland. For more than a century and a half, patients have benefited from the additional care and attention provided by the men and women receiving their clinical training here.

Since its founding in 1823, the hospital has become a major tertiary care referral center which offers the full range of specialized medical and surgical services. In recent years, as the number of health care facilities in urban centers has decreased, the hospital has assumed increasing responsibility for its surrounding community. As a result, more than 100,000 city residents look to the University of Maryland Hospital for their primary source of health care.

The 864-bed hospital is one of the nation's busiest. In one year, it records approximately 20,000 in-patient admissions, 250,000 out-patient visits, and 40,000 emergency room visits. Two thousand babies are born here each year. Every day, nearly 5,000 people pass through the hospital's doors. The senior medical staff — more than 600 physicians — is comprised of the clinical faculty of the School of Medicine. They supervise the training of the 465 graduate physician house staff as well as the medical students.

Because of its unique professional and academic environment, many outstanding treatment programs and research facilities have been attracted to the hospital. The shock trauma center of the Maryland Institute for Emergency Medical Services Systems is located here as is the Baltimore Cancer Research Program, the National Cancer Institute's internationally renowned center for developing new cancer treatment modalities. In addition, Maryland's Center for Vaccine Development, the Institute of Psychiatry and Human Behavior, and the Sudden Infant Death Syndrome (SIDS) Institute (one of the nation's largest research programs of its kind), are located at the University of Maryland Hospital.

A heliport adjacent to the hospital permits rapid transportation of the most severely injured and acutely ill citizens from around the state. In addition, critically ill newborn babies from throughout Maryland are flown to the hospital's outstanding neonatal intensive care nursery. The institution's facilities also include intensive care units serving seven medical specialties and an extensive rehabilitation medicine program. In addition, a major orthopaedic center offers unique reconstructive surgical techniques to patients referred from throughout the nation.

The hospital's ambulatory care facilities are housed in a modern 13-story structure where more than 60 specialty clinics are available. These are augmented by separate emergency medical units for both children and adults. The hospital's commitment to the provision of alternatives to specialized medical care is born out in the presence of a family health center and several primary care clinics.

The University of Maryland Hospital has grown both professionally and physically during the years. The move from century-old buildings to modern facilities brought active cooperation with many of the university's professional schools. Today, the hospital is the training site for a broad spectrum of health professionals including pharmacists, social workers, dentists, nurse practitioners and various health-related professionals and technicians. This interprofessional environment is a unique and valued characteristic of the University of Maryland Hospital.

As Maryland's only public medical center to have statewide and regional impact, the 1980's present the University of Maryland Hospital with a challenge to further the standards of excellence established over the past 150 years. The decade of the 80's will require the hospital to keep pace with continued rapid technology development within the confines of a constrained national economy. This emphasis will be balanced by greater concern over resources and their

control, and greater pressures to operate efficiently and effectively. The University of Maryland Hospital will continue renovating, rebuilding and renewing its facilities and systems to perpetuate a record of achievement in patient care, research and education.

AFFILIATIONS

The clinical facilities used in the teaching programs of the School of Medicine are numerous and varied in order to offer a broad spectrum of opportunities ranging from basic health care to complex medical problems requiring expensive, highly specialized facilities and staff.

Crucial to medical care today are the community hospitals in which the majority of primary and secondary level health care problems are seen. Recognizing these facts, the medical school has developed a network of institution-to-institution affiliations with community hospitals at three educational levels: undergraduate, graduate and postgraduate.

A closely-knit undergraduate affiliation exists with six community hospitals serving a wide range of patients in varied geographic settings. They are Maryland General, Mercy, Prince George's General, Provident, South Baltimore General, and York (Pa.) hospitals. Each has made a major commitment towards being an area health education center, firmly believing that the end result of a teaching environment is better patient care. Central to these programs devoted to the continuing education of all staff. In addition, all have well-developed graduate education programs which attract interns and residents who wish to train in a community hospital atmosphere. These hospitals have recruited full-time educators in most departments, who hold academic appointments as full-time faculty members and participate in activities of the medical school.

Closely linked with the University of Maryland Hospital are the Baltimore and Ft. Howard Veterans Administration hospitals. Within several years the Baltimore Veterans Administration Medical Center will be completely integrated with the medical school and located on this campus. Currently, it is supervised by a dean's committee and the departments of medicine and pathology provide complete faculty and housestaff coverage.

Still other facilities are needed to complete the educational opportunities for physician training. Special programs involving one or more departments are conducted at Montebello Rehabilitation Hospital, a state rehabilitation and chronic care facility; the John L. Deaton Medical Center, an extended care and rehabilitation facility; Baltimore City Hospitals, an acute care general hospital; Mount Wilson Hospital, a state tuberculosis facility; James L. Kernan Hospital, for children and adults with specialized orthopaedic problems; the Sheppard-Pratt Hospital, a private psychiatric hospital; and Springfield, Spring Grove and Rosewood, state mental health hospitals.

Baltimore Veterans Administration Medical Center. The hospital was constructed in 1952 on a 15-acre campus located approximately three miles from the Johns Hopkins Medical Institutions and four miles from University of Maryland Hospital.

The mission of the hospital is to provide general medical and surgical care for eligible veterans and to operate a small, active drug treatment program and an outpatient clinic for service-connected problems. It is affiliated with the medical schools of both University of Maryland and Johns Hopkins University. The medical, laboratory, genitorinary surgery, drug treatment-psychiatric services are linked with the University of Maryland Hospital while the surgical service (including general, neuro, orthopaedic and ophthalmic surgery) is associated with Johns Hopkins University School of Medicine. The radiology service is affiliated with both schools. All of the 47 full- and part-time staff plus 217 consultants and attending physicians are active faculty members of one of the medical schools.

The 67 interns and residents are selected by the medical schools and rotated for blocks of time to the University of Maryland or the Johns Hopkins hospitals, as well as to the Baltimore Veterans Administration Medical Center. In addition to medical students, nursing, social work and psychology students rotate through the hospital for portions of their training. The active and growing research program adds to the academic aspects of the environment.

The medical library contains 183 current periodicals, 3,137 books and monographs and obtains many interlibrary loans from the two affiliated medical schools.

House officers and students from the various health science disciplines also rotate through the Ft. Howard Veterans Administration Hospital. This hospital emphasizes rehabilitation medicine and provides extended care for veterans recovering from serious illness or injury. A close-working relationship exists between the Baltimore and Ft. Howard Veterans Administration hospitals whose services complement each other.

Maryland General Hospital. The hospital has been meeting the health needs of downtown metropolitan Baltimore since it was founded in 1881. As an institution which is constantly growing and expanding, the hospital offers a broad range of modern facilities and equipment. Through the years, MGH has expanded from a capacity of 50 beds to its present bed complement of 407.

Construction of a new special procedures-cardiac catheterization room was completed in 1976. Located adjacent to the Department of Radiology, this \$400,000 unit houses highly sophisticated x-ray equipment utilized in the special diagnostic procedure of angiography.

In 1978, a comprehensive in-patient psychiatric facility was established for the diagnosis and management of neuropsychiatric illness.

New on-call quarters for the housestaff were completed in 1980 along with an adjacent updated and expanded library.

The Coronary Care Unit features the latest in electronic monitoring devices.

Developments in kidney research are centered in the renal lab equipped with a Travenol RSP Artificial Kidney. The unit also specializes in home training for kidney dialysis.

Other special areas such as the Department of Nuclear Medicine, Gastroenterology, Pulmonary Laboratory, Physical Therapy, and a complete research department are all part of the growth of Maryland General Hospital.

Maryland General Hospital is a nonsectarian, fully accredited, voluntary teaching hospital affiliated with the University of Maryland. A cooperative agreement between the university and MGH provides clinical experience for many university medical students. An active intern and residency program is a vital part of the MGH philosophy of providing outstanding patient care through continuous research and education. In addition, MGH operates its own schools of Nursing and Radiologic Technology.

The Maryland General Hospital is a member of the Maryland Health Care System, Inc., a regionally integrated, multiunit, nonprofit health care delivery system; The American Hospital Association; The Hospital Council of Maryland, Inc; The Maryland-Delaware District of Columbia Hospital Association; and The Council of Teaching Hospitals.

Mercy Hospital. Its history can be traced to the foundation of the Washington University School of Medicine in 1827. In 1872, some of the members of this institution founded a new school, which was the beginning of the College of Physicians and Surgeons of Baltimore.

Washington University School of Medicine opened a dispensary and a small hospital at the corner of Saratoga and Calvert streets and named it the Baltimore City Hospital. This building served both as a hospital and a medical school. In 1874, the Sisters of Mercy, upon the invitation of the Washington University School of Medicine, assumed responsibility for the nursing services of the hospital. In 1878, Washington University merged with the College of Physicians and Surgeons.

The Sisters of Mercy, in 1888, with the assistance of the faculty of the College of Physicians and Surgeons, laid the cornerstone for a new hospital adjacent to the earlier buildings. The name of the institution was changed to Mercy Hospital in 1909; and, in 1911, another larger building was formally opened, occupying the remaining frontage on that block of Calvert Street. Mercy Hospital arranged, in 1921, to purchase the original College of Physicians and Surgeons building from the University of Maryland.

Many additions have been made to Mercy's physical plant over the years. The present 21-story hospital on St. Paul Place, close to the commercial center of Baltimore, was opened in 1963. A large, modern ambulatory patient department with numerous design innovations to accommodate both private and clinic patients was completed in 1969. Since then, Mercy has added an 800-car parking center and the new Burk Building at the site of the original hospital. The new building houses the emergency medicine department as well as improved out-patient and ancillary services for the hospital, including the relocated medical-surgical intensive care unit and educational facilities.

Mercy's community outreach program today includes satellite clinics for out-patient services in South Baltimore, Little Italy and Northeast Baltimore. The Robert Wood Johnson Foundation in 1976 granted Mercy nearly \$500,000 to expand its services at the Mercy Southern Health Center in South Baltimore.

The hospital is very active in the teaching program of the University of Maryland School of Medicine. Faculty members serve as full-time heads of medicine, surgery, pediatrics and obstetrics-gynecology. Medical students rotate through the Mercy clinical services during the second, third and fourth years. A School of Medical Technology and a School of Radiologic Technology are conducted in conjunction with the hospital. In addition, the hospital presents a number of seminars and symposiums with credits toward continuing education for physicians and surgeons.

During the year ending June 30, 1979, there were 11,565 general admissions, 120,719 out-patient visits, 1,424 obstetrical deliveries and 28,205 visits to the Emergency Medicine Department. The bed capacity is 329 plus 36 bassinets. All hospital beds are available for teaching purposes.

Prince George's General Hospital and Medical Center. The hospital first opened its doors to the public on March 21, 1944, with a capacity of 100 beds. As the population of Prince George's County increased, the hospital expanded to 235 beds; and in 1959, the bed capacity was further increased to 385.

During 1968, a nine-story addition to the main building increased bed capacity to 500. An extended care facility of 100 beds was also added as well as a 36-apartment complex for interns and residents, and a new and larger power plant.

An 18-bed Alcoholic and Drug Detoxification Unit was added in July, 1972, bringing the total number of beds to 614. This program complements the comprehensive mental health program of the county which provides emergency, out-patient, and in-patient psychiatric services.

Prince George's General Hospital and Medical Center is one of the largest hospitals in the Washington suburban area and is a leading hospital in number of admissions, emergency treatments and clinical out-patient visits in the entire metropolitan area. It is a general teaching hospital approved by the Joint Commission on Accreditation of Hospitals. The hospital also maintains membership in the American Hospital Association, the American College of Physicians, the American College of Surgeons, and the American Medical Association.

Affiliation with the University of Maryland School of Medicine was established to promote the opportunities for furthering medical education of physicians in training and licensed physicians in practice who are members of the medical staff of Prince George's General Hospital and Medical Center. Lectures are given daily at the medical center by faculty members from various medical schools and case presentations follow which are representative of the content of the lecture.

The institution is also an education center in the training of specialized health careers. The hospital serves as the clinical facility for the Prince George's Community College Associate of Arts Degree Programs in Nursing, Radiologic Technology, Medical Technology, Nuclear Medicine Technology, and Nurse Anesthetist. It is approved for the training of physicians with residency specialties in surgery, medicine, obstetrics and gynecology, and family practice. Over 400 well qualified physicians and surgeons have privilege to admit and treat patients at the hospital.

During 1979, there were 20,328 general admissions, 15,126 out-patient clinics visits, 2,731 obstetrical deliveries and 62,293 emergency room visits. The bed capacity is 655 including 100 in the extended care/subacute facility. Construction is now underway for an ambulatory care facility which will expand the many specialized clinics serving the community.

Provident Hospital. Since its establishment on June 13, 1894, Provident Hospital has grown from a ten-bed infirmary to a modern 271-bed hospital complex. The busy, well-equipped emergency rooms and out-patient clinics combined with Provident's outreach programs (Provident Druid Children and Youth Development Center, Sickle Cell Anemia Clinic and Program, Project A.D.A.P.T. concerning drug abuse, Provident Quarterway House, Alcoholism Liaison Service Program, and Community Mental Health Program) testify to Provident's genuine commitment to meeting the needs of a chiefly black urban community.

Excellence in patient care is at all times the program's main objective. Provident's community orientation and the broad spectrum of cases available enhance the learning experience. Orientation and instruction in this urban setting are achieved through ward rounds, lectures and bedside teaching. In addition, work in the out-patient department is supervised by members of the active visiting staff of the respective services.

South Baltimore General Hospital. Founded in 1904 as a specialty clinic, the hospital expanded within 14 years to a general hospital in order to fully serve the medical needs of South Baltimore. In 1968, the hospital's activities were transferred to its present modern and spacious facilities at 3001 South Hanover Street, overlooking the scenic and historic harbor area. The new location underscores the hospital's commitment to its urban and industrial communities and makes it readily accessible to patients from neighboring suburban areas.

Its current bed capacity of 408 has averaged an occupancy of over 85%. To meet the growing needs of the community, plans are now underway to construct additional facilities to increase the bed capacity of 534 and to expand the present capacity for ambulatory care and medical education.

Each year, over 14,000 patients are admitted for hospital care. Approximately 10,000 surgical procedures are performed annually. Special emphasis is given to the capacity to handle industrial and vehicular trauma. Over 65,000 patient visits are made to the emergency room and out-patient clinics, and approximately 1,400 babies are delivered each year.

The hospital has a strong commitment to medical education at all levels. All departments and major divisions are headed by full-time directors, most of whom are on the University of Maryland School of Medicine faculty. Medical students receive instructions at the hospital during their second, third, and fourth years. Graduate education consists of approved residencies in medicine, surgery, obstetrics-gynecology, pathology, and a university-affiliated program in pediatrics. An active program of continuing education is maintained for practicing physicians. In addition, the hospital maintains a School of Practical Nursing and Radiologic Technology, and provides clinical facilities for five nursing schools.

York (Pa.) Hospital. From its beginning in 1880 with just 12 beds to serve a community of 16,000, York Hospital has grown, on a site established in 1930, to meet today's needs for a population of over 275,000 from the greater York area and communities along the northern Maryland line. Annual admissions exceed 20,000, and more than 60,000 visits are made to the emergency room and out-patient departments each year.

A multimillion dollar expansion program recently doubled the size of the hospital: increased its bed complement to 560, of which 50 are monitored; and created new operating rooms, intensive care units, radiology and laboratory facilities, ambulatory care areas, and additional in-patient nursing units. A modern educational complex with closed-circuit TV houses classrooms, seminar and conference rooms, a library, and a large auditorium to accommodate the teaching needs of medical education and the five allied health schools — medical records administration, medical technology, nuclear medicine technology, radiologic technology, and respiratory therapy.

York Hospital has a medical staff of more than 225 organized into the usual departments and divisions of a major health care institution. The most recent additions are in open-heart surgery and renal dialysis.

Graduate medical education programs include flexible internships and approved residencies in family practice, medicine, obstetrics/gynecology, pathology and surgery. Additional teaching programs exist in cardiology, emergency room/out-patient services, endocrinology, gastroenterology, hematology/oncology, infectious diseases, neurology, nuclear medicine, pediatrics, psychiatry, pulmonary services and radiology/radiotherapy.

At least 40 students from the University of Maryland School of Medicine have traditionally elected York Hospital rotations each year. Faculty leadership and supervision are provided by full-time coordinators in each major teaching department. Instruction is provided by a full-time staff of more than 20, and major commitments from the voluntary attending staff.

INTERNATIONAL HEALTH PROGRAM

In accordance with objectives of the International Health Research Act of 1960, International Centers for Medical Research were created under the auspices of the National Institutes of Health to advance the status of international health. Congress further expressed the hope that a program through United States universities for the early development of research and research training centers with adequate field opportunities for international studies would be established.

Thus the Office of International Research of the National Institutes of Health provided for the establishment of such a center at the University of Maryland School of Medicine in March 1961, to conduct scientific programs both in Baltimore and abroad in Lahore, Pakistan.

While the federal program sponsoring these centers ceased in 1980, the University of Maryland has continued its activities, both in Lahore and Baltimore, under the auspices of NIH and USAID project grants.

The program has these objectives:

- To conduct medical and paramedical research at the domestic and overseas sites.
- To provide research opportunities in international health problems for American physicians and allied professional workers, and their counterparts in Pakistan.
- To create, through scientific endeavors, an atmosphere of mutual understanding and friendship between Pakistan and the United States.

This program provides opportunities for postdoctoral research in the fields of infectious disease — microbiology, medical entomology, epidemiology and parasitology. Current projects include mosquito biology, ecology and genetics, malariology and arbovirology. Often overlapping interests result in joint research projects. At present, projects involve collaboration with the following organizations or institutions: the Center for Disease Control (U.S.), the U.S. Agency for International Development, the University of Illinois, King Edward Medical College (Pakistan), the Pakistan Medical Research Council, the World Health Organization, and the Imperial College of Science and Technology (England).

Appointments to the program are made at the research associate level. Upon acceptance into the program each research associate, with the aid of an advisor, devises a plan of research. Assignment to divisions and appointment of advisors depend upon the candidate's background, interests and the program's personnel needs. Following a basic orientation course, each research associate begins or joins an overseas research project, which frequently involves both field and laboratory work. Appointments are for one to three years.

Further inquiries should be addressed to the International Health Program, 8-34F, Medical School Teaching Facility, 10 South Pine St., Baltimore, Md. 21201.

AREA HEALTH EDUCATION CENTER PROGRAM

One of the University of Maryland at Baltimore's commitments toward improving health care and delivery programs in primary care is the Area Health Education Center (AHEC) program.

The AHEC program has been developed to provide a comprehensive health care education program for undergraduate and graduate medical students, as well as for students from the other UMAB professional schools. The university received formal legislative support for the AHEC program in 1976, when the Maryland State Legislature passed a bill which established a formal mechanism for the university to create AHECs, described as "multiple health education and training centers [which] will attract students, interns and residents to the several geographic areas, thereby attracting increased numbers of practicing physicians, encouraging development of health care facilities, providing for the training of additional numbers of allied health care professionals and increasing capabilities for the existing program of graduate and continuing medical education and health training." The organization thus formed was the Maryland Statewide Medical Education and Training System.

Presently, three AHECs are operational in the state: a rural, an urban and a geriatric. The first AHEC was established in Cumberland, a rural community in Western Maryland. This center affords students the opportunity to understand the valuable and rewarding benefits of delivering primary health care in a rural environment. The urban AHEC is located in downtown Baltimore and encompasses a geographic area which has been identified as one with problems of ready access to health care providers. The geriatric AHEC is also located in Baltimore City but is geared to serve the city and the state's aged population.

As a matter of school policy, it is expected that ten percent of all clinical education will be taken by students in an AHEC site.

Senior medical students may choose a rotation in any one of these centers as an elective in primary care. All internal medicine and pediatric housestaff in the primary care programs will serve a rotation in an AHEC location. It is hoped that the students' career choices will be influenced positively toward practice in such settings and, in the majority of instances, as primary health care providers. An additional rural AHEC is planned for Maryland's Eastern Shore and another is projected which will direct attention to adolescent and/or college health services.



OFFICE OF MEDICAL EDUCATION

The Office of Medical Education serves as a consultative unit to all departments of the medical school in the following areas:

- Instructional design, implementation and evaluation.
- Media systems design and hardware installation, e.g., operating room TV, etc.
- Faculty development regarding instructional techniques, design, evaluation, technology.
- Educational resources including audiovisual aids, instructional television and computer-assisted instruction.
- Development and implementation of computer-based instructional systems.
- Assistance in development of special educational programs.
- Assistance in curriculum development and evaluation of curricular programs.
- Evaluation of instructional systems and techniques.
- Coordination of library facilities to include the storage and retrieval of all nonprinted educational material and software; operation and maintenance of learning resources centers and media libraries; establishment of interlibrary loan system statewide.
- Maintenance, distribution and operation of projection and related audiovisual equipment for use in teaching.
- Administration of the Fifth Pathway Program.
- Tutorial assistance and study skills.
- Classroom scheduling.
- Research in medical education, instructional design, evaluative techniques, and educational technology.

Illustrative Services

The Department of Illustrative Services is a functioning component of the Office of Medical Education. The department supplies audiovisual aids to medical school faculty and staff for teaching, research and publication purposes. The primary services include illustration, photography, and offset printing.

Illustration. Services include comprehensive renderings of surgical and clinical techniques, anatomical renderings, statistical charts and other graphic representation, simple and comprehensive design and finishing of flyers, brochures, programs and posters. Also included are layout and paste-up for offset printing and photographic copying. In addition, this section is responsible for the design and finishing of displays and exhibits.

Photography. The division handles photographic copying of flat material such as written matter, x-rays, laboratory tracings and data; photography of specimens, equipment set-ups, surgical, clinical and laboratory activities; and portraiture for school-related purposes. The department is equipped for photomicrography (large and small format), slide duplication and motion picture photography. It further acts as a collection station for commercial processing of color photography.

Offset Printing. This section furnishes volume duplication and offset printing, through photographic enlarging or reduction involving either line or half-tone. The plant is equipped for finishing such as folding, stapling, punching, cutting and padding.

HEALTH SCIENCES LIBRARY

The Schools of Medicine, Dentistry, Pharmacy, Nursing, Graduate Studies, Social Work and Community Planning, and the University of Maryland Hospital and its affiliated institutions are served by the Health Sciences Library in a modern, four-story building. It is one of the oldest medical college libraries in the country, dating back to 1813 when the University of Maryland purchased Dr. John Crawford's personal collection to form a medical library.

The library, containing more than 240,000 bound volumes, with 3,100 current periodical subscriptions, is ranked one of the top 15 medical libraries in the nation. Its collection is more varied than those of most other medical libraries, with the subject scope encompassing the basic biomedical and health-related sciences as well as the social and behavioral sciences. Thus, in providing literature to support the teaching, research and health care programs on the campus, the library makes available a wide range of materials to the medical community.

The Health Sciences Library has established an innovative outreach service program which adds a new dimension to library service on campus. Each of six Information Specialist librarians is assigned to one of the professional schools or the hospital. The Information Specialists participate in collection evaluation and development in the respective subject areas related to their assigned professional school; teach seminars and orientations in information retrieval; and serve as information consultants as well as being responsible for the Computerized Reference and Bibliographic Service (CRABS) which provides customized subject bibliographies.

The library has access to over 30 computer data bases in the sciences and the social sciences including MEDLINE, Psychological Abstracts, ERIC, TOXLINE, and Social Sci-search.

The Reference Services staff also provides traditional reference service.

Interlibrary Loan service is available for needed materials not held in the library collection.

A Computer-Assisted Instruction (CAI) terminal is available free of charge to all UMAB students. This terminal allows access to self-instructional programs in the health sciences from Ohio State University and from Massachusetts General Hospital.

Self-service photocopy machines are available on all floors of the library. The library is open 8:00 A.M. - 10:00 P.M. (Monday-Friday), 9:00 A.M. - 5:00 P.M. (Saturday) and 2:00 P.M. - 9:00 P.M. (Sunday). Special holiday and summer hours are posted.



STUDENT LIFE



OFFICE OF STUDENT AFFAIRS

The Office of Student Affairs is designed to provide students enrolled in medicine with guidance, advice, help, and administrative services. In addition, the office is responsible for monitoring student progress and advancement, registration, graduation, and all aspects of student life related to undergraduate medical school. To this end, the office employs one full-time associate dean and one full-time assistant dean, three part-time assistant deans, two coordinators, and a clerical staff.

While the entire staff is available to help all students in any area, some members also assume a specialty area within their overall functions. These specialty areas include minority affairs, senior elective year advising, student fellowships, national residency programs advising, counseling, and administration of the students' Vertical Advisory System.

Elective Program. The Office of Student Affairs compiles course offerings, schedules courses and changes of electives, and provides for both evaluation of a student's performance during electives and evaluation of the electives taken.

Office of Minority Affairs. The office coordinates all activities concerned with the recruitment and retention of minority medical students. Some specific goals are to increase the number of minority students entering medical school and to provide all reasonable assistance necessary to facilitate their positive progress through the School of Medicine.

Residency Advisory System. The residency advisory system provides assistance in specialty career planning and guidance in the selection of suitable residency training programs. This service is available on an individual basis to all members of the junior and senior class.

Vertical Advisory System. Students have the opportunity for close personal association with a team of faculty advisors and upperclass students during each of the four years of medical school. This advisory system, administered through the Office of Student Affairs, provides a helpful, ongoing interchange concerning academic, social, personal, and career problems and opportunities.

Financial Assistance. Information regarding the types of aid available to medical students is detailed in the financial information section.

HUMAN DIMENSIONS IN MEDICAL EDUCATION (HDME) PROGRAM

THE HDME program provides opportunities for informal activities involving students and faculty outside the classroom setting. These range from social gatherings to serious small group discussions of concerns and feelings related to the personal and professional aspects of medical education and practice.

Students may elect to participate in the HDME Program at any point in their medical school career. Many enter the program by attending the prefreshman orientation retreat held in late August. The retreat is attended by students from all levels of training, faculty members and, in many cases, spouses or close friends. Participants are thus provided an opportunity to get acquainted in an informal, intimate, off-campus setting. Much of the time at the retreat is spent in intensive small group sessions. Topics of discussion are determined in each group, but typically cover such areas as adjustment to medical school, the impact of a medical career on domestic life, or the problem of setting priorities among various professional and personal commitments. Recreational activities are also included in the four-day experience.

Students in the HDME Program also participate in the Vertical Advisory System (see Office of Student Affairs), but are normally assigned faculty advisors within the HDME program.

HDME was conceived at The Center for the Studies of the Person in La Jolla, California, which advises on-site HDME Programs at a small number of selected medical schools across the country. The program is planned and operated locally by student-faculty committees. Some of its other activities include publishing a newsletter, training in group leadership and communication skills, and efforts to enhance interpersonal relationships in the clinical setting. The desired end result is the development of effective communication and listening skills

which will enable the medical student, house officer and faculty member to become better health care providers.

STUDENT GOVERNMENT

Committee on Student Activities. At present, a standing committee of the School of Medicine Council charged with the continued study of the health and general welfare of the students has been replaced by regular meetings involving the deans, class officers, Student Council president, and student members of the Curriculum Committee which serve to focus on these needs.

Judicial Board. The medical school community operates under a general statement of ethical principles which are subject to periodic review by a Judicial Board. This board is chaired by a faculty member appointed by the dean and is composed of elected representatives from the faculty, the student body, and the housestaff. The board investigates any alleged infractions of the ethical code and conducts appropriate hearings. The board's findings and recommendations are then forwarded to the dean. After final disposition of the case, the dean presents an impersonal (individuals not identified by name) report of the decision to the School of Medicine Council.

Student Council. This organization is recognized by the administration of the School of Medicine as the official representative body of medical and medical technology students. All students of these professions become *de jure* members of the student body at registration upon payment of the student activities fee. The Student Council members are elected by the classes of the student body with one representative per 50 members (or fraction thereof), the first representative being the duly-elected president of the class.

Duties of the Student Council are as follows: 1) to disburse monies from the student activities fund according to the council's financial disbursement guidelines; 2) to organize and administer the intramural athletic program, and 3) to define areas of schoolwide interest and to coordinate support for related activities through policy guidance, funding and promotion.

Each year the Student Council sponsors an intramural program for medical, medical technology, physical therapy and radiologic technology students. The events usually consist of inter-class competition in touch football, basketball, softball and tennis. A ping-pong tournament and coed volley ball games are also regular events.

STUDENT PUBLICATIONS

Terrae Mariae Medicus. The yearbook is published annually at the discretion of the medical school's senior class. Since 1896 the volume has provided a wide coverage of student life. Each Senior receives a yearbook, the cost of which is included in the student activities fee.

Aesclepien. The student newspaper is sponsored by the American Medical Student Association. A student editor is paid by the sponsoring group to produce up to 18 issues a year.

STUDENT ORGANIZATIONS

American Medical Student Association.(AMSA). The AMSA chapter at the University of Maryland School of Medicine is chartered as a member body of the national AMSA, an organization begun in 1951 to channel student activism into improving the delivery of health care in the United States. As such, its concerns encompass the entire spectrum of health issues, from manpower recruitment, education and utilization, to legislation and planning of innovative methods of raising the level of health care in the country. Membership is open to all medical, allied health professions and pre-med students on an affiliate basis. Nationally, AMSA offers students the opportunity to design, administer and participate in programs and projects which increase the student's awareness of the multiplicity of factors that determine level of health. Locally, AMSA sponsors freshman orientation for the medical school, fosters social interaction among medical students and sends delegates to regional conferences and national conventions. Each year AMSA also selects the teaching faculty member to receive the Golden Apple Award in recognition of teaching excellence.

Student National Medical Association (SNMA). The University of Maryland SNMA chapter was organized in 1970 by the minority students in the medical school. The organization's general goals are aimed at alleviating the crisis of health care delivery in minority groups of the American population by increasing the enrollment and decreasing the attrition rate of minority students in medical schools. A very specific goal of the national organization is a program directed at the problem of sickle cell anemia. On campus, the local chapter gives a voice to problems facing minority students in medicine in general, and at this medical school in particular. The group also provides pertinent activities and functions for the well-being of its members.

Family Practice Club. In 1969, a group of medical students formed this organization to increase the awareness of the new specialty of family practice and to provide activities related to it. This is accomplished through the club's summer preceptorship program and its monthly meetings at which students interact socially with practicing family physicians in their discussion of topics of current interest in family medicine. The Maryland Academy of Family Physicians and the medical school's Department of Family Medicine are both very active in their support of the club's activities.

Alpha Omega Alpha. The Beta chapter of Maryland was established at the University of Maryland in 1949. Medical students possessing outstanding qualities of moral integrity, scholarship and leadership are elected to membership in their third or fourth years. The society sponsors an annual lectureship, a forum for the presentation of medical student research and chapter meetings on topics of social, educational and philosophical interest to medical students and faculty.

Women in Medicine. The University of Maryland-Women in Medicine (WIM), organized in 1979, is a chartered junior branch of the American Medical Women's Association (AMWA). AMWA is a national association organized to promote the interests of women physicians and to provide for a sharing of mutual interests and friendships. Maryland has an active regional state branch, composed of women physicians practicing in this state, which serves as the direct sponsor of the junior branch.

The objectives of WIM include: bringing women in medicine into association with each other for their own mutual advantage; encouraging social and cooperative relations within and without the profession; aiding women medical students; encouraging and supporting premedical women in pursuit of a medical career; promoting an interest that medical education be responsive to the needs of women; and bringing medical students into association with the AMWA. WIM also jointly participates and shares activities with the Johns Hopkins University women medical students.

MEDICAL ALUMNI ASSOCIATION

"The alumni of the School of Medicine of the University of Maryland desiring to further the interest and advancement of the University of Maryland School of Medicine and perpetuate the associations made during the medical school period . . ." With that preamble to its constitution, the Medical Alumni Association has, since 1895, served all graduates, students, faculty, staff and physicians affiliated with the School of Medicine.

The Medical Alumni Association office, located in Davidge Hall at 522 W. Lombard Street, is open from 8:30 a.m. to 4:30 p.m. and is staffed with full-time employees. Functions of the association include the maintenance of up-to-date addresses of all graduates, contact with the membership through regular mailings and coordination of Alumni Day activities, held in conjunction with graduation when five-year reunions are celebrated. The association also supervises the printing and distribution of the quarterly publication, the BULLETIN, which is mailed to all alumni, faculty and students.

An ongoing project assumed by the association is the plan to restore Davidge Hall to its original state as built in 1812. The building has been designated as a National Historic Place by the Department of the Interior. Donations totaling more than \$300,000 have been made by alumni and friends to convert Davidge Hall into a living museum — one which symbolizes the beginnings and continuity of higher education in the state of Maryland.

Recently the association's role in raising funds for the School of Medicine and its students provided assistance in many departments which would have otherwise been unfunded. Recent Annual Fund Drive proceeds enabled the School of Medicine to establish a daily medical care center for the elderly in the Inner Harbor area, which will also provide legal, dental, social work and nursing interdisciplinary services.

In addition to the annual fund campaigns for the school, the association was instrumental in obtaining a large student aid grant from an alumnus, a Chair in the School of Medicine and several lectureships. For many years, the Medical Alumni Association has offered interest-free loans to medical students. Recently, upon receipt of a large bequest of a 1921 alumnus, grants are now available from the Walter M. Winters' Fund, as administered by the Office of Student Financial Aid.

In order to promote a better line of communication among the students, school and association, a Wine and Cheese Party is held for the first and second year classes, an Oyster Roast is held for the third year students and, upon graduation, the Seniors are guests at the Annual Alumni Banquet.

The Medical Alumni Association is totally self-supporting and all expenses incurred in its operation, alumni and student activities and publication of the BULLETIN are derived from membership dues.

All faculty and staff members affiliated with the School of Medicine and the University of Maryland Hospital are welcome and eligible for membership. For further information, write to the Medical Alumni Association of the University of Maryland, Inc., Room 201, Davidge Hall, 522 W. Lombard Street, Baltimore, Maryland 21201, or phone 301-528-7454.



STUDENT HEALTH SERVICE

The School of Medicine provides medical care for its students through the Student Health Service located in Room 145, Howard Hall. The office is staffed by a physician-director, assistant director, three internists, two psychiatrists, a gynecologist, an orthopedist, three registered nurses and three secretaries. The care provided is an office-type of practice for those with illnesses or injuries not requiring hospitalization, but preventing the student from attending classes.

All students are required to have Blue Cross hospitalization insurance or its equivalent and must produce proof of such membership at the time of registration. A special Blue Cross-Blue Shield student policy is available to all students enrolled in the medical school. Detailed information regarding its provisions may be obtained from the Student Health Services.

As a prerequisite of registration each student is required to have a physical examination, tuberculin skin test and chest x-ray as scheduled by the Student Health Service. Abnormalities found during examination are discussed with the student. All students must pass the physical examination before final acceptance can be granted.

Prospective students are advised to have any known physical defects corrected before entering the School of Medicine in order to avoid absences during the academic year. Adherence to preventive medicine programs conducted by the Health Service (i.e., tuberculin skin test and chest x-rays) is required of all students, and is a mandatory part of registration.

The Health Service does not treat chronic conditions contracted by students prior to admission or extend treatment to acute conditions developing in the period between academic years.

A student's spouse or other members of the family are not eligible for Health Service care. In this regard, however, the Family Practice Health Center is available to family members desiring health care.

All students who register are required to pay a health fee at the time of registration. This fee covers all visits to the Health Service during the school year. Any necessary diagnostic studies will be at the expense of the student unless the studies are covered under the Blue Cross-Blue Shield or equivalent insurance.

HOUSING

The University of Maryland at Baltimore is predominately a commuter campus. Most students locate housing in Baltimore or commute from their homes elsewhere in the state. Limited on-campus accommodations are available at the Baltimore Union and Parsons Hall Residence for Women for full-time, single students during the academic year.

The Coordinator of Student Activities Office, Room 108 of the Baltimore Union, assists students in locating off-campus housing as well as managing the two on-campus facilities.

During the summer months, rooms in the Baltimore Union are offered on a space available basis to students, faculty, and staff who are affiliated with the UMAB campus. The summer accommodations are on the 3rd, 4th and 5th floors of the Baltimore Union. The residence hall rooms are supplied with basic furnishings: desk, chair, bed, desk lamp, and dresser. No private baths, televisions, or air-conditioning are available in the rooms.

Application forms for housing may be obtained by writing to: Director of Housing, 621 W. Lombard Street, Baltimore, Md. 21201.

ATHLETIC FACILITIES

The campus has a single-floor recreation area located atop the Pratt Street Garage. It is equipped with two squash courts, two racquetball/handball courts, and two basketball courts which also may be used for tennis, badminton and volleyball. In addition, there is a weight room equipped with a 15-station Universal Gym and a sauna in each locker room. Facilities are available for use by UMAB students, faculty, staff and alumni. UMAB students with a

current and valid I.D. are admitted free. Faculty and staff members desiring use of the gym are assessed a \$20.00 per academic year membership fee. For additional information, contact the athletic manager at 528-3902.

THE STUDENT UNION

The Baltimore Student Union is a cultural and social center for students, faculty, staff, alumni and guests. Activities and services of the Union include meetings, dances, receptions, movies and other forms of indoor activity.

The student/faculty pub, The Synapse, is located in the lower level and offers food and cold beer. Thursday nights feature a local disc jockey, with free films and live music on occasion. Membership fee is \$2 for students, faculty and alumni per academic year.

The Student Union Cafeteria provides food service on a pay as you go basis. The cafeteria also offers catering service, from simple refreshments to complete banquet meals. Four conference rooms are available to accommodate groups from 12 to 200 in size.

The Union provides many special services for members of the university community: bulletin boards, check cashing, photo-copying machines, telephones, game room, publicity rack, ticket service for University of Maryland College Park athletic events, food-vending machines, ride board, potpourri of special functions as well as on-campus/off-campus housing information.



SCHOOL OF MEDICINE STUDENT PRIZES

Summa, Magna and Cum Laude Awards. Certificates of honor are presented to those candidates for graduation who, during their four academic years, have exhibited outstanding qualifications for the practice of medicine.

The Dr. Wayne W. Babcock Prize. Each year a prize is awarded to a graduating senior for outstanding work in surgery as a memorial to Dr. Babcock.

The Balder Scholarship award. Each year a prize is awarded for outstanding academic achievement to a graduating senior.

The Dr. J. Edmund Bradley Prize. Each year a graduating senior who has performed with special excellence in pediatrics is awarded a prize in honor of Dr. Bradley.

The Dr. Eugene B. Brody Award. A graduating senior is awarded a check and a certificate for outstanding achievement in psychotherapy.

The Louis, Ida and Samuel Cohen Award. A scholarship is awarded annually to a member of the senior class and housestaff for recognition of superior scholarship, scientific knowledge in internal medicine, and human understanding and compassion for patients.

The Dr. Francis Donaldson Prize for Excellence in Pathology. A check and a certificate are awarded to a graduating senior who excelled in sophomore Pathology.

Faculty Gold Medal. Each year a medal is struck and presented to the graduating senior who exemplifies outstanding qualities of a physician, i.e., scholarship, compassion, problem-solving skills, as well as having shown interest in serving the University of Maryland School of Medicine.

The Family Medicine Award. A plaque, a check and a certificate are awarded to a senior for excellence in training in the concept of family medicine.

The Dr. Jacob E. Finesinger Prize. A prize is given each year in honor of Dr. Finesinger, late professor and chairman of the Department of Psychiatry, to the member of the senior class selected by the faculty who has done outstanding work in psychiatry.

The Dr. A. Bradley Gaither Memorial Prize. A prize, given each year by Mrs. Gaither as a memorial to her husband, is awarded to the student in the senior class excelling in genitourinary surgery.

The Dr. William Alexander Hammond Award. A prize is awarded to a graduating senior who has performed with special excellence in neurology.

The Dr. Leonard M. Hummel Memorial Award. A gold medal and Certificate of Proficiency are awarded annually as a memorial to the late Dr. Hummel to the graduate, selected by the faculty, who has manifested outstanding qualifications in internal medicine.

The Dr. Milton S. Sacks Memorial Award. A prize is given in honor of Dr. Sacks, late professor of medicine and hematology, to the graduating senior selected by the faculty who has performed with special excellence in medicine and hematology.

The Uhlenhuth Prize in Anatomy. Each year a graduating senior is awarded a certificate and skull for outstanding work in Anatomy during freshman year.

The UpJohn Special Achievement Award. Each year a graduating senior who has performed with special excellence in Epidemiology and Preventive Medicine is awarded a check and an engraved plaque from the UpJohn Company.

The Rudolf Virchow Prize. This award, consisting of a check and a certificate, is given to a graduating senior who conducted outstanding research work in Pathology.



ACCREDITATION

The University of Maryland is a member of the Association of American Colleges and is accredited by the Middle States Association of Colleges and Secondary Schools. The School of Medicine is accredited by the Liaison Committee on Medical Education, accrediting body for the Association of American Medical Colleges and the American Medical Association.

SALARY AND EMPLOYMENT INFORMATION

Students admitted to the University of Maryland School of Medicine can be assured of remunerative employment after satisfactory completion of the course of study and receipt of the degree, Doctor of Medicine. A high percentage of graduates enter the practice of medicine after completion of residency training. There appears to be a moderate excess of physicians in some disciplines of medicine and in some geographic areas. However, the overall need for persons holding the MD degree is such that all graduates of the School of Medicine may expect a satisfactory income.

EQUAL OPPORTUNITY

The University of Maryland, in all its branches and divisions, subscribes to a policy of equal education opportunity for men and women of all races, creeds, and ethnic origins. The school has the objective of securing a broad racial, sexual and ethnic balance in its enrollment. To achieve this objective it desires to give every consideration to minority student applications.

APPLICATION

The University of Maryland School of Medicine participates with the American Medical College Application Service (AMCAS) and all requests for a place in the first year class must be initiated by an AMCAS application. AMCAS application request cards can be obtained from AMCAS, Suite 310, 1776 Massachusetts Ave., NW, Washington, D.C. 20036, and the Committee on Admissions, University of Maryland School of Medicine, 655 West Baltimore St., Baltimore, Md. 21201. In addition, they are usually available from the premedical advisory office at the undergraduate college. AMCAS application material is usually ready for distribution about mid-June of the year prior to the year the applicant wishes to enter medical school.

For the School of Medicine, the AMCAS application is the first of a two-stage application process, and is due in Washington, D.C. by *December 1*. The Committee on Admissions thoroughly reviews the AMCAS application and based on the information contained in it determines whether the second stage (School of Medicine) application form can be sent. An application fee (\$15.00) to the School of Medicine is sent only with the filing of the second stage application form which is due by *December 31*. Every applicant will either be sent second stage application material or be informed that the committee cannot continue the application process.

It is very definitely in the best interests of the applicant that the application form and supporting credentials be filed early in the application period. Please do not have supporting credentials sent prior to filing a final application.

It is the responsibility of the applicant to see that all required credentials and the completed application packet are filed with and received by the Committee on Admissions.

APPLICANT SELECTION

Academic achievement, extracurricular activities, personal characteristics, recommendations from college instructors or the premedical committee, scores on the new Medical College Admissions Test (MCAT) and personal interview are all carefully considered in evaluating an applicant. Academic achievement and/or high scores on MCAT do not in themselves ensure acceptance. Of equal concern to the Committee on Admissions are the applicant's personality, character, motivation, sincerity of purpose and an assessment of the applicant's potential to

perform as a medical student and as a future physician. Communications skills, honesty, integrity, acceptance and carrying out of responsibility and involvement in activities in the area(s) of the applicant's interest(s) must also be demonstrated.

Applications from persons with outstanding credentials from other areas of the United States and Canada are welcome and will receive all possible consideration. However, preference in the selection process is given to residents of the state of Maryland. Because of the large number of persons applying, applications can be processed only from citizens of the United States or Canada. A permanent alien immigrant is considered as being a citizen for selection purposes.

ADMISSION TO FIRST YEAR

Careful attention should be given to choice of undergraduate electives, especially in the sciences. Usually the student should plan a four-year curriculum with a suitable arts and science major leading to a bachelor's degree. A major in an area other than science is quite acceptable although it is not our intention to divert students from a science major if this is their field of choice. The opportunity to place out of biochemistry by written examination is offered.

Applicants who choose a nonscience major should take a sequence of science courses which demonstrate their academic ability to handle the demands made by a science-oriented curriculum.

A minimum of 90 semester hours of acceptable college credit is required, exclusive of physical education and military science, earned in colleges of arts and sciences whose names appear on the current list of Accredited Institutions of Higher Education as compiled by the National Committee of Regional Accrediting Agencies of the United States. Applicants who will have earned a bachelor's degree in arts and sciences from an approved college or university before registration for medical school will be given preference over applicants who have not completed the requirements for the bachelor's degree. The only courses accepted are those which are approved for credit towards a degree by the university or college attended as well as the University of Maryland.

The following college courses and credits, at an acceptable level, are required before registering for medical school:

	Semester Hours
General biology or zoology	8
Inorganic chemistry	8
Organic chemistry	6
General physics	8
English	6

No more than 60 hours can be accepted from accredited junior colleges and then, only if these credits are validated by a college offering a Bachelor of Arts or Science degree.

Selected students entering the School of Medicine from colleges which usually grant a baccalaureate degree after the successful completion of the first year of medicine, are responsible for: 1) providing a certificate from the college or university certifying eligibility for this degree, and 2) meeting all requirements of the School of Medicine for advancement to the second year.

A letter of evaluation is required from the undergraduate premedical committee for those applicants still enrolled in or recently graduated from undergraduate college. If there is no premedical committee, letters are requested from two science and one nonscience course instructors. When letters from other sources are sent, they should be only from persons who can candidly and critically evaluate the applicant's accomplishments, productivity and character. Consequently, such letters are usually from individuals who have supervised the applicant in some special experience in the applicant's area of interest or work. In any case, all letters of evaluation should be sent directly to the School of Medicine's Committee on Admissions; they are *not* to be sent to AMCAS.

An evaluation of the applicant's credentials is made by members of the Committee on Admissions to determine if an interview is to be requested. This decision is based upon a composite estimate of the applicant's ability and future promise in the field of medicine as measured by his academic record to date, performance on the MCAT, recommendations of the premedical faculty, extracurricular activities, an assessment of the applicant's personal characteristics and the applicant's overall standing as compared to that of the other applicants applying that year. Such interviews must be scheduled in advance at the initiative of the committee.

The MCAT is usually taken in the Spring and must be taken no later than the Fall of the year preceding the year of entrance. Applicants should write to the American College Testing Program, P.O. Box 414, Iowa City, Iowa, 52240, for further information and registration forms, or to the Committee on Admissions.

In the selection process, the Committee on Admissions must use as the applicant's residency status that which is in effect on the last day applications can be received (December 31).

For further information regarding the admissions process in general, the applicant is referred to a booklet entitled "Medical School Admissions Requirements" which can be obtained from the Association of American Medical Colleges, Suite 200, One DuPont Circle, NW, Washington, D.C. 20036.

ADVANCED STANDING

Students who have attended medical schools in the United States are eligible to file application for admission to the second and third year classes only. Application must be made no later than March 1 of the year of desired admission. Applicants for advanced standing must meet the current first year entrance requirements in addition to presenting acceptable medical school credentials and a medical school record based on courses which are equivalent to similar courses in this school. Applicants for admission with advanced standing to the Year III Class are also required to take Part I of the National Board Examinations.

No student can be considered who has been dismissed from any medical school unless his former dean submits a letter addressed to the Committee on Admissions stating that the student is reinstated in good standing and eligible for promotion. No student can be considered who is not eligible for promotion at the time of transfer.

Persons who already hold the degree of Doctor of Medicine cannot be admitted to the medical school as a candidate for that degree from this university.

Citizens of the United States who are studying medicine in foreign medical schools may apply for admission to the Year III Class *only*. Application must be made no later than March 1 of the year of desired admission. Applicants for advanced standing must meet the first year entrance requirements, submit acceptable medical school credentials and a medical school record based on courses equivalent to similar courses in this school and, in addition, must take the Medical Sciences Knowledge Profile (MSKP) test. Students in foreign schools are no longer permitted to take Part I of the National Board Examinations. Applications for the MSKP must be made to:

MSKP-Association of American Medical Colleges, Suite 301
1776 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Due to the limited number of vacancies in the Year III Class, *strong preference is given to residents of Maryland.*

GENERAL RULES

The university authorities reserve the right to make changes in the curriculum, the requirements for advancement and graduation, fees, and rules and regulations whenever appropriate.

Matriculants are required to accept the provisions of the Judicial Board and agree to assume its obligations prior to registration.

Students who report for classes later than one week after the scheduled time will be permitted to begin work only by permission of the dean. Attendance at all scheduled classes is expected.

Notice of change of address should be submitted promptly to the Dean's Office and to the Registrar's Office.

All new students, whether they are admitted to the first year class or with advanced standing, are expected to attend an orientation for new students.

DISCLOSURE OF STUDENT INFORMATION

In accordance with "The Family Education Rights and Privacy Acts of 1974" (PL 93-380), popularly referred to as the "Buckley Amendment," disclosure of student information, including financial and academic, is restricted. Release to anyone other than the student requires a written waiver from the student. A full policy statement may be found in the current UMAB campus information guide issued to all incoming students.

DETERMINATION OF IN-STATE STATUS

An initial determination of in-state status for admission, tuition, and charge-differential purposes will be made by the University at the time a student's application for admission is under consideration. The determination made at that time, and any determination thereafter, shall prevail in each semester until the determination is successfully challenged prior to the last day available for registration for the forthcoming semester. A determination regarding in-state status may be changed for any subsequent semester if circumstances warrant redetermination.

In those instances where an entering class size is established and where an application deadline is stated, in-state conditions for admissions must be satisfied as of the announced closing application date.

Petitions for review of eligibility and questions concerning the University policy should be directed to the Office of Admissions and Registrations, Howard Hall, Room 132, University of Maryland at Baltimore, Baltimore, Maryland 21201.

Students classified as in-state for admission, tuition and charge-differential purposes are responsible for notifying the Office of Admissions and Registrations, in writing, within 15 days of any change of circumstances which might affect their classification at the Baltimore City Campus.

A complete policy statement may be obtained from the School of Medicine's Committee on Admissions or the UMAB Office of Admissions and Registrations.

TUITION AND FEES FOR 1980-1981

	Fall	Spring	Total
Application Fee/Matriculation Fee*	\$ 15.00	\$ —	\$ 15.00
Fixed Charges — In-State	1,400.00	1,400.00	2,800.00
Fixed Charges — Out-of-State	2,650.00	2,650.00	5,300.00
Instructional Resources Fee	16.00	16.00	32.00
Student Activities Fee	15.00	15.00	30.00
Student Health Fee	10.00	10.00	20.00
Hospital Insurance (Individual)**	106.68	106.68	213.36
Student Liability Insurance***	75.00	—	75.00
Supporting Facilities Fee	30.00	30.00	60.00
Dormitory Fee****	660.00	660.00	1,320.00
Graduation Fee — Seniors	—	15.00	15.00

*An application fee of \$15 should be submitted with the formal application to the School of Medicine. This fee will be applied against the matriculation fee for accepted students. A deposit on tuition of \$100 is required of all applicants before the expiration date specified in the offer of acceptance. The deposit will be credited against first semester charges. Please be advised that this is a *nonrefundable* deposit.

**Hospital insurance is required of all full-time students. A brief outline of the student health insurance program is furnished each student. Students with equivalent insurance coverage must provide proof of such coverage at the time of registration and obtain a hospital insurance waiver. Rates are subject to change.

***Student liability (malpractice) insurance is required of all students.

****Rate based on 10-month year, double occupancy. Transient rates available for summer.

FEES

Application and/or matriculation fee partially defrays the cost of processing applications for admission and enrollment data in the professional schools. These fees are not refundable.

Student health fee is charged to help defray the cost of providing a Student Health Service which includes routine examinations and emergency care. Acceptable medical insurance is required in addition to the student health fee.

Diploma fee is charged to help defray costs involved with graduation and commencement.

Instructional resources fee is charged to provide supplies, materials, equipment and other costs directly associated with the instructional program.

Student activities fee is used to meet the costs of various student activities, student publications and cultural programs. The Student Government Association, in cooperation with the Dean's Office, recommends expenditure of the fee collected.

Supporting facilities fee is used for expansion of various facilities on campus that are not funded or are funded only in part from other sources.

Fixed charges fee meets a portion of the costs for the educational program and supporting services.

Service charge is assessed for dishonored checks and is payable for each which is returned unpaid by the drawee bank on initial presentation because of insufficient funds, payment stopped, postdating, or drawn against uncollected items.

For checks up to \$50 — \$5

For checks from \$50.01 to \$100 — \$10

For checks over \$100 — \$20

Late registration fee defrays the cost of special handling involved for those who do not complete their registration on the prescribed days.

No diploma, certificate, or transcript will be issued to a student until all financial obligations to the university have been satisfied.

The university reserves the right to make such changes in fees and other charges as may be necessary.

REGISTRATION

To attend classes at the UMAB campus it is necessary to process an official registration. All students are required to register each term in accordance with current registration procedures. Fees are due and payable on the dates specified for registration. Registration is not completed until all financial obligations are satisfied. Students who do not complete their registration, including the payment of their bill on the registration day, will be subject to a late registration fee.

Courses taken concurrently with a UMAB registration at another campus or institution must have program approval in advance by the appropriate UMAB officials. Off-campus registration forms are available in each dean's office and the Registrar's Office.

Although the university regularly mails bills to preregistered students, it cannot assume responsibility of their receipt. If any student does not receive a bill prior to the beginning of a semester in which he/she has preregistered, it is his/her responsibility to contact the Office of the Registrar or Office of the Cashier, Howard Hall, during normal business hours.

Students who arena register or preregister and subsequently decide not to attend UMAB must notify the Registrar's Office, Howard Hall, Room 135, in writing, prior to the first day of classes. If this office has not received a request for cancellation by 4:30 p.m. of the last day before classes begin, the university will assume the student plans to attend and accepts his or her financial obligation.

After classes begin, students who wish to terminate their registration must submit an application for withdrawal to the Registrar's Office. Students are liable for all charges applicable at the time of the withdrawal. All checks and money orders should be made payable to the University of Maryland for the exact amount of the actual bill.

Any enrolled student may request at registration the postponement of payment of one-half his/her fixed charges for 30 days; all other fees are due and payable. For this service a charge of \$2.00 will be made.

If a satisfactory settlement or agreement for settlement is not made with the Business Office within ten days after a payment is due, the student automatically is debarred from attendance at classes and will forfeit the other privileges of the School of Medicine.

WITHDRAWAL AND REFUNDS

Students desiring to leave the School of Medicine at any time during the academic year are required to file a letter of resignation with the dean. In addition, an Application For Withdrawal Form bearing the proper signatures must be filed with the Office of the Registrar. The student must satisfy the authorities that he/she has no outstanding obligations to the school and return his/her student identification card.

If the above procedures are not completed, the student will not be entitled to honorable dismissal and will forfeit the right to any refunds to which he/she would otherwise be entitled. The date used in computing refunds is the date the application for withdrawal is signed by the dean.

Academic Standing. Students who voluntarily withdraw during an academic semester will be given no credit. Students are not permitted to resort to withdrawal in order to preclude current or impending failures. Their standing on withdrawal will be recorded at the Registrar's Office. Students who withdraw from the medical school and later desire readmission must apply to the Committee on Admissions unless other arrangements have been made with the dean's written consent.

Refunds. Students officially withdrawing from the school will be credited for all academic fees charged to them less the matriculation fee, in accordance with the following schedule from the date instruction begins:

Two weeks or less	80 per cent
Between two and three weeks	60 per cent
Between three and four weeks	40 per cent
Between four and five weeks	20 per cent
After five weeks	0 per cent

Leaves of Absences. Students who are in good standing may be granted one year's leave of absence on request of the dean. Longer leaves can be arranged only under special circumstances with the exception of those students in the combined MD-PhD program.

REQUIRED EQUIPMENT

Dissecting Instruments. At the beginning of the first year, all freshmen must possess a complete set of dissecting instruments similar to the ones on display in the bookstore.

Microscopes. All freshmen must also provide themselves with a standard microscope. All microscopes must conform to the following specifications:

1. For frequent and prolonged use, a binocular microscope is preferable to a monocular-type instrument and is therefore strongly recommended.
2. 10X oculars; wide field oculars are recommended, but not required.
3. Quadruple nose piece.
4. Four parfocal objective lenses, viz.—
30 mm., 4X, 0.1 N.A.
16 mm., 10X, 0.25 N.A.
4 mm., 43X, 0.65 N.A.
1.8 mm., 97X, oil immersion, 1.25 N.A.
5. Mechanical stage to accommodate standard size microscopic slides; the stage need not be graduated.
6. Built-in, on-base light source; a variable transformer is recommended.
7. Substage condenser; Abbe or variable focus.
8. A carrying case is recommended.

Students are cautioned with respect to the purchase of used or odd-lot microscopes since some of the older instruments are in poor optical or mechanical condition; and, in addition, some are equipped with a 4 mm. (high dry) objective whose N.A. is marked as 0.85. This objective has such a short working distance (0.3 mm.) that it is difficult or impossible to focus through thick cover glasses or the standard hemocytometer cover glass without breakage.

Based on the determination of financial need, first year medical students may qualify for loan of a microscope.

Other Equipment. By the second year, medical students are required to have an ophthalmoscope, a blood pressure cuff, hemocytometer, and slit lamp. The estimated cost of these items, plus other essentials such as lab coats, is \$300 to \$350.

FINANCIAL ASSISTANCE

The University of Maryland School of Medicine's financial aid program is available for medical students who demonstrate financial need. Through a varying combination of grants, scholarships, long and short term loans, and part-time employment, students may receive assistance in meeting education expenses. In addition to the school resources, outside funding agencies make financial assistance available to qualified medical students.

An application for financial aid must be submitted annually, *no later than February 15*, to be considered for assistance for the following academic year. Applications of entering students will be considered only after the applicant has been accepted for admission. Entering students will be forwarded financial aid applications upon request to either the Committee on Admissions or to the Student Aid Office. Students currently enrolled in the School of Medicine may obtain forms from the Student Aid Office.

The amount of student assistance is determined on the basis of demonstrated financial need. Eligibility for financial aid is dependent upon the student maintaining good academic standing and full-time attendance. When determining the amount to be awarded, the financial aid committee considers the following: 1) the income, assets, and resources of the student and

student's family; 2) support available to the student from nonuniversity sources; and 3) the costs reasonably necessary for full-time attendance at the school.

Renewal of financial aid for succeeding years is dependent upon annual submission and review of a financial aid application, good academic standing, the student's continued financial need, and the availability of funds.

A complete description of the procedures used to evaluate applications for aid, of the student budgets used, and of various university, state and federal programs, can be found in the brochure "Financial Aid at UMAB."

MEDICAL SCHOOL FUNDS

Maryland State Grants. Grants are made to disadvantaged students who are residents of Maryland with priority consideration to minority disadvantaged students.

Dean's Scholarship. Funds provided by each school are awarded primarily to nonresident students although Maryland residents may also participate in the program.

Desegregation Grants. First-year minority students who are Maryland residents are eligible for these funds. Desegregation grants will normally be used to reduce the amount of loan included in the financial aid award.

Health Professions Loan. Medical, dental and pharmacy students are eligible for loans equal to tuition plus \$2500 annually. Interest accrual at 7% and principal payments are deferred until one year after graduation at which time both interest and principal payments begin. Both interest and principal may also be deferred for internships and residencies and for up to three years of service in the uniformed services (including National Health Service Corps) and the Peace Corps. The federal government will repay 60% of the outstanding principal and interest for a minimum of two years of service in a designated shortage area; an additional 25% will be repaid for a third year of service.

Medical Alumni Association. Interest-free loans are available.

Robert Wood Johnson Loan. Interest is currently set at 10% and must be paid while the borrower is in school. Because the interest must be paid in advance on the full amount of the loan from the time of disbursement to a date three months after graduation, the effective interest rate for a first year student is 11.6%. Interest payments are again due three months after graduation, but principal repayments may be deferred for up to three years of residency training. The entire loan is cancelled if the borrower does not finish the degree program.

Work Study. The College Work-Study Program provides jobs for students who need financial aid and who must earn a part of their educational expenses. Jobs are arranged either on-campus or off-campus with a public or private nonprofit agency. If you are found to be eligible, you may be employed for as many as 20 hours per week.

Private and Endowment Funds. From bequests and private donations, the School of Medicine has established private and endowment accounts to provide fellowships, scholarships, and loans for students on the basis of their academic achievement and financial need. The amounts of these fellowships, scholarships, and loans vary and are awarded on an annual basis in accordance with school policy.

The availability of support from each of the funds listed below is dependent upon the income generated. In addition, since many of the funds are governed by specific provisions set forth by the donors, awards must be made accordingly.

Endowed Fellowships

Dr. and Mrs. Frederick J. Balsam Fellowship in Rehabilitation Medicine

Dr. Paul R. Brown Research Fellowship in Genito-Urinary Disease

Jessie M. Cook Research Fellowship in Circulatory Diseases

Issac E. Emerson Fellowship in Pharmacology

Jose R. Fuentes Memorial Fellowship in Obstetrics & Gynecology

John F. B. Weaver Fellowship in the School of Medicine

Scholarships

Balder Scholarship Fund
Robert W. Buxton Scholarship
Israel and Cecelia E. Cohen Scholarship
William H. Crim Scholarship
A. Lee Ellis Scholarship
Arthur Wright Erskine Scholarship
John E. Esnard Fund
Sharon Fox Scholarship
Leon Frank Scholarship
Joseph B. Ganey Scholarship
Harry Gudelsky Fund
Horace Bruce Hetrick Scholarship
Margaret A. Hicks Scholarship
Hitchcock (Charles H. and Charles M.) Scholarships
G. D. Jackson Scholarship
Leo Karlinsky Scholarship
Emmett and Ruth Light Scholarship
Alex J. and Clara Maysels Scholarship
Henry Rolando Scholarship Fund
Morton and Elaine Schwartz Scholarship
David Street Memorial Scholarship
Charles R. Thomas Scholarship
Arnold Tramer Scholarship Fund
Michael Vinciguerra Scholarship
Clarence Geneva Warfield Scholarship
John F. B. Weaver Scholarship
John L. Whitehurst Fund
Sara A. Whitehurst Fund
Randolph Winslow Scholarship
Walter M. Winters Scholarship
Henry Zoller, Jr. Scholarship

Loans

Balder Loan Fund
Foundation Loan Fund Class of 1934
Gold-Steinberg Memorial Loan Fund
Issac Gutman Loan Fund
W. K. Kellogg Loan Fund
William and Sarah Kraut Loan Fund
Michael H. Lipman Loan Fund
Joseph Lipskey Loan Fund
Marie K. Manger Loan Fund
Frank C. Marino Loan Fund
Medical School Council Loan Fund
Edward and Lina Meirhof Loan Fund
Memorial Loan Fund — School of Medicine, Class of 1916
Jessie Smith Noyes Loan Fund
Charles Pfizer Loan Fund
Jimmie Schwartz Foundation Loan Fund
Senior Class Loan Fund
Senior Class of 1945 Loan Fund
Christopher C. Shaw — Class of 1931 Loan Fund
Hugh R. Spencer Loan Fund
Webster M. Strayer Loan Fund
Wetherbee Fort Loan Fund

OUTSIDE SOURCES

Students are encouraged to consider financial aid resources available through sources outside of the School of Medicine. Each of the following programs requires a separate application; while application deadlines vary, most are in early Spring.

Maryland State Scholarship Board: Professional School Scholarships. One-year grants of \$200-\$1,000 can be sought for subsequent years by proper reapplication.

Maryland State Scholarship Board: Family Practice-Medical Scholarships. These awards are for students enrolled in the School of Medicine of the University of Maryland and pursuing a Doctor of Medicine degree. A recipient must have been a Maryland resident for five years, have definite financial need, and be willing to enter the general practice of medicine, serving the state of Maryland in an area of need (bond required). These \$1,500 per year awards continue for up to four years, and no renewal application is required.

National Health Service Corps. For each academic year of training a National Health Service Corps Scholarship Program award for medical and dental students consists of: a) a monthly stipend for living expenses of at least \$485 a month during the 12-month school year, with annual adjustments to reflect any increases in federal salaries; b) payment to the school of the tuition and fees; c) payment of other educational expenses to cover books, supplies, equipment, etc., based upon the average expenses of students in your school and class year.

Students who receive these scholarships can generally expect continued scholarship support through their senior year (up to a maximum of four years) provided that funds continue to be available.

For each year of scholarship support, recipients are required to perform a year of full-time clinical practice in a designated health manpower shortage area. Practitioners are assigned as salaried, federal employees by the National Health Service Corps and must serve a minimum of two years.

For further information and applications, call 24-hour toll-free phone (800) 638-0824 (except from D.C., Maryland, Alaska, Hawaii and U.S. Commonwealths or Possessions); for local calls during office hours, (301) 436-6453. Or write to: National Health Service Corps Scholarship Program, Center Building, Room 5-44, 3700 East-West Highway, Hyattsville, Maryland 20782.

National Medical Fellowships. Need-based awards to minority medical students. For further information and applications write: National Medical Fellowships, 250 West 57th Street, New York, NY 10019.

Maryland Higher Education Loan. The guaranteed student loan program is a nationwide program known by different names in different states: guaranteed loans, federally insured loans, Maryland Higher Education loans, etc. They are all part of the same program, one which enables you to borrow directly from a bank, credit union, savings and loan association or other participating lender which is willing to make the loan. The loan is guaranteed by a state or private nonprofit agency or insured by the federal government.

The maximum you may borrow as an undergraduate is \$2,500 a year. A graduate or professional student may borrow up to \$5,000 a year (in some states these amounts may be less). The interest rate on these loans is 7%.

The total amount outstanding for graduate or professional study is \$15,000, including loans made at the undergraduate level.

All students are eligible for federal interest benefits. An insurance premium of up to one percent each year of the total loan outstanding may be collected in advance under a state or private guarantee agency program. An insurance premium of one-quarter of one percent will be collected for loans insured by the federal government. Usually this premium is collected at the time of disbursement by the lender.

The loan must be repaid. Payments normally begin between 9 to 12 months after you graduate or leave school, and you may be allowed to take up to 10 years to repay the loan. The amount of your payments depends upon the size of your debt and your ability to pay; but in most cases you must pay at least \$360 a year unless the lender agrees to a lesser amount.

You do not have to make payments for up to three years while you serve in the Armed Forces, Peace Corps, or full-time volunteer programs conducted by ACTION. In addition, deferment is available any time you return to full-time study at an eligible institution or pursue a course of study under a graduate fellowship program approved by the Commissioner of Education. A single deferment for a period of not more than one year is also provided for students who are unable to find full-time employment.

Health Education Assistance Loan. U.S. citizens who are full-time students may borrow up to \$10,000 per year to a cumulative maximum of \$50,000.

The loans are made by commercial lenders. Students may not borrow from another guaranteed student loan program (such as the Maryland Higher Education loan) during the same academic year to be covered by the Health Education Assistance Loan.

There is no federal interest subsidy under this program. Interest may not exceed 12% per annum (ANNUAL PERCENTAGE RATE) of the unpaid balance of the loan. Interest may be paid on an ongoing basis or accrued until repayment begins. If interest is accrued, it will be compounded semi-annually and added to the loan principal when repayment begins. An insurance premium, not to exceed 2% per annum, will be charged at the time an individual loan is processed.

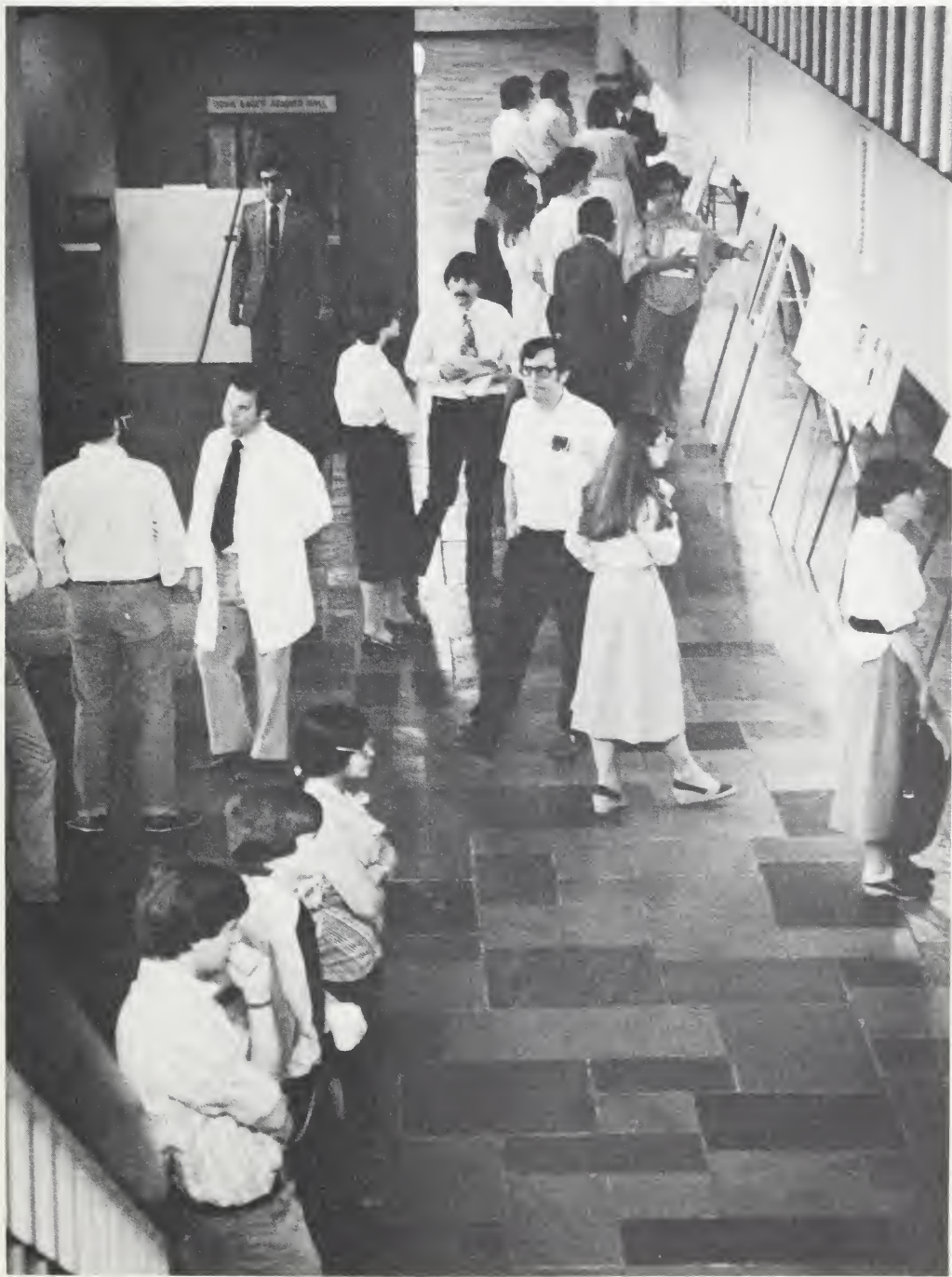
Repayment will begin 9 to 12 months after all formal training, including that provided in accredited internship and residency programs, has been completed. A deferment of principal will be granted to borrowers who return to full-time study at an institution of higher education, or, for up to three years, for training in an internship or residency program, or service in the Armed Forces, Peace Corps, or specified programs under ACTION or the National Health Service Corps after the repayment period has commenced. Borrowers may take from 10 to 15 years to repay the loan once repayment commences.

Borrowers may apply for federal payment of both principal and interest to a maximum of \$10,000 a year through service in the National Health Service Corps or practice in a health manpower shortage area. This federal payment for service will be at the option of the federal government and available only to the extent that vacancies exist in the National Health Service Corps or if there are shortage areas in the academic discipline for which the borrower obtained his/her training.

Repayment will be carefully monitored. Under law, there will be no discharge of loans by bankruptcy during the first five years of the designated 10-15 year repayment period. Persons in professional practice who default on their loans may have payments for any federally supported health care service, such as Medicare and Medicaid, reduced by the amount of the loan default. If a borrower breaches obligations entered into under a federal payment for service contract, the United States government will be entitled to recover damages.

American Medical Association Loan. Medical students may borrow up to \$1,500 per year from the AMA. Interest accrues at 8% annually and must be paid while the borrower is in school.

PROGRAMS OF STUDY



CURRICULUM

Broadly stated, the educational objectives of the School of Medicine are as follows:

- To educate students in a manner which will enable them to function at a high level of professional expertise and social awareness on a broad base of medical competency.
- To introduce the medical student to the concept of primary care of patients and to provide the medical student with sufficient opportunities to develop knowledge and skills for the delivery of primary care to the patient population.
- To provide opportunities for students at every level of training to pursue areas of special interest in depth, whether for intellectual stimulation or furtherance of a career choice.
- To encourage students to seek future medical careers in areas of need, whether these be professional or geographic.
- To train a variety of individuals to form the core of highly competent professionals who will practice medicine as generalists or specialists, teach full or part-time, or continue to add to knowledge through research.

More specifically, the curriculum has been designed to meet medical educational contingencies as they arise. To this end, the faculty has established as a basic principle, continuous curricular review and has empaneled a standing Committee on Curriculum Coordination which is composed of year I, year II, and clinical year faculty chairpersons, special course chairpersons, faculty members-at-large, and representatives of the student body. This committee is charged with the responsibility of monitoring the curriculum and recommending changes whenever they are deemed necessary. The curriculum varies from year to year to meet changing needs of graduate medical education and health care delivery.

Potential students are advised that there is a strong possibility that curriculum developments may necessitate a five-and-one-half-day (Saturday mornings) structure of compulsory attendance during any of the four years of medical education. The present curriculum does include a course in Correlative Medicine for third and fourth year students which is scheduled on Saturday mornings and for which all students are held accountable. Additionally, it should be noted that the current clinical curriculum frequently involves weekend attendance and that a weekend session dealing with the topic, Intimate Human Behavior, is included in the year I curriculum. Furthermore, students should be prepared to spend a block of time in training sites out of the metropolitan Baltimore area during their stay in medical school.

First and Second Years. There are two four-month core sessions in each of the first and second years. During the months of January and June, elective courses will be taught with a minimum requirement of eight elective freshman/sophomore courses to be achieved by medical students prior to advancement into the third year. These elective courses may be taken during any one of the four minimesters at the student's and advisor's discretion.

During the freshman year, the following core courses are taught: Anatomy (including gross anatomy and histology), Biochemistry, Epidemiology and Preventive Medicine, Psychiatry, Physiology and Biophysics (combined), Genetics (interdisciplinary), and Neurosciences. In addition, students are exposed to a variety of subjects such as interviewing techniques, emergency medical care, normal physical diagnosis, and specialty physical diagnosis through the freshman year interdisciplinary course, Introduction to Clinical Practice. Correlative Medicine, an interdisciplinary course, attempts to stress the clinical aspect of the basic sciences and is taught in the freshman and sophomore years. Intimate Human Behavior, an interprofessional course under the aegis of the Interprofessional Studies Committee, is required of freshmen medical students and is open to students from the other professional schools on campus.

During the sophomore year, students encounter the following core courses: Microbiology, Pathology, Pharmacology and Experimental Therapeutics, Physical Diagnosis, Psychiatry, and Epidemiology and Preventive Medicine. Introduction to Clinical Practice is continued in the sophomore year including courses in specialty physical diagnosis and medical ethics. Further-

more, there is a continued emphasis throughout the year on clinical correlation with combined instruction by basic science and clinical science faculty. This correlative teaching involves faculty of all the basic science departments in cooperation with the clinical scientists in order to provide the sophomore medical student with the full spectrum of the basic science foundation and the clinical science presentation of disease states. Attendance in all small group experiences, including laboratories and discussion groups, is mandatory.

Third and Fourth Years. The clinical years curriculum requires the student to spend a minimum of one summer between the sophomore and junior or junior and senior year taking clinical science courses at the University of Maryland School of Medicine. The two clinical years are viewed as a total unit with progressive patient responsibility on the part of the student. The first clinical experience consists of four 12-week rotations which are as follows: internal medicine; surgery; pediatrics and psychiatry; obstetrics/gynecology, radiology, and neurology. The student will take these four 12-week quarters according to a specific individual schedule. Course order for individual students will be based on logistical sequencing. The sum of these quarters provides a 48-week background introduction to clinical science.

Following this experience, the student will have a 24-week block that includes an eight-week elective period in which the student may pick one or two electives of his/her own choice. An additional eight weeks will be spent in a student internship in one of four clinical fields: medicine, surgery, pediatrics, or family practice. Here the student will be given an opportunity for primary patient care responsibility over a prolonged period of time. This rotation will generally be given at the University of Maryland Hospital or, on occasion, at an approved affiliate. The third two-month segment will be a consecutive eight-week experience in an ambulatory setting. These out-patient settings will include internal medicine, pediatrics, and family practice, with emphasis on epidemiology and preventive medicine, and rehabilitation medicine. Attendance in all course work in clinical areas is mandatory. In the additional free time, the student may audit available electives. The combined clinical years program equals the usual 72-week combination of the final two years but supplements the strong background of clinical science with a definitive opportunity for primary responsibility during the subsequent clinical experiences. It is hoped that this curricular change will better prepare the medical student for the increasing responsibility demanded by the new specialty residency programs which have been adopted throughout the country.

The course in Correlative Medicine, taught during years I and II, has recently been incorporated into the clinical years curriculum, as well. This course, which is presently under development by an advisory committee, is scheduled for Saturday mornings. It is anticipated that the required course will begin on a formal basis in January, 1981.

GRADES AND PROMOTION

Beginning with the Class of 1984, the final grades for all courses in all four years should be recorded as follows:

- A (Excellent)
- B (Very Good)
- C (Satisfactory)
- D (Unsatisfactory)
- F (Failing)

Inc. = this designation to be used only when mitigating circumstances (e.g., illness, unavoidable absence) have prevented the student from completing the course on time. It is to be viewed as a nonprejudicial entry on the student's record. It must be noted that the grade of "Inc" remains on the official student transcript.

An award of "Honors" is to be given to a student who: 1) receives a final grade of "A" and 2) performs an additional scholarly effort that is clearly outstanding.

In addition to the final objective grade and the Honors category, subjective evaluation of the student should be included to evaluate the student's overall performance and appropriate evaluation forms are designated for this purpose.

Beginning with the Class of 1984, the School of Medicine has adopted revised academic guidelines for advancement and dismissal in the freshman and sophomore years.

Established rules for advancement and dismissal during all four years have been approved by the faculty and student body representatives of the School of Medicine Council. A full copy of all regulations related to grading, advancement and dismissal is included in the Academic Handbook given to all entering students at Orientation.

The faculty reserves the right to determine if a student may withdraw, repeat, advance or graduate on academic or moral and personal grounds, including traits of character.

COMBINED MD-PhD PROGRAMS

Properly qualified medical students may elect to enter a combined educational program leading to the doctor of medicine and graduate degrees. Currently there are four approved MD-PhD programs: Microbiology, School of Medicine (MMIC); Pathology, School of Medicine (PATH); Pharmacology and Experimental Therapeutics, School of Medicine (MPET); and Physiology, School of Medicine (MPHY). Other programs are undergoing reevaluation by the School of Medicine and the Graduate School.

The School of Medicine is in the process of establishing a Medical Scientist Training Program (MSTP) which will unify all present/proposed combined MD-PhD programs. Through such integration, the effectiveness of training medical scientists in the institution should be greatly enhanced. It is expected that the graduates of the MD-PhD program will be prepared for a wide range of career opportunities and will be adequately trained to cope with the increasingly multifaceted and interdisciplinary nature of teaching and research in the basic and clinical medical sciences.

The School of Medicine has as one of its principal objectives the desire to train highly motivated and successful medical students capable of assuming leadership roles in academic medicine and research institutions, as high-standard clinical researchers and as educators of future scientists and physicians.

Applicants must meet the admission requirements of both the School of Medicine, as a candidate for the MD degree, and the UMAB Graduate School as a candidate for the PhD degree. Research stipends are available to support students enrolled in the MD-PhD program. For further information regarding the Medical Scientist Training Program, please contact the Office of the Dean.

DEAN'S RESEARCH TRAINING FELLOWSHIPS

The School of Medicine has a commitment toward the development of MD researchers. The school recognizes the value of maintaining the connection between the treatment of patients and the science which enables patient care to advance. By bridging both areas, the physician-researcher is in an ideal position to translate research into clinical application and patient problems into laboratory investigation.

In an effort to enhance student involvement in biomedical investigation, the school encourages students to participate in epidemiological, laboratory, and direct patient research through the Dean's Research Training Fellowship Program. Major areas of research interest at the School of Medicine include: cancer and environmental diseases, cell biology, neurobiological sciences, and infectious, endocrinologic, and cardiovascular diseases. Approximately 80% of the research support at the School of Medicine is devoted to work done in these broad areas.

The research training fellowships provide tax-free awards of \$1,200 for two months of basic science or clinical research work. Longer research experiences may be arranged, as well. All classes are eligible and many freshmen and sophomore students use their free summers for these experiences. Students selected to participate in the program are expected to give presentations of their research to students and faculty on Student Research Day, an annual event held each Spring.

GRADUATE PROGRAM

Graduate courses and research opportunities leading to advanced degrees are available in most of the basic science departments of the School of Medicine. Students pursuing graduate work must be admitted to the Graduate School and meet the prerequisites of the Graduate School and the department. A catalog of courses and information concerning the graduate programs offered at the University of Maryland at Baltimore can be obtained from the Office of the Dean for Graduate and Interprofessional Studies and Research, University of Maryland at Baltimore, Baltimore, Md. 21201.

The Graduate School is not an extension of undergraduate programs, but was created rather for the preparation of those who, in the future, will carry on the spirit of individual inquiry. Thus it promotes and provides an atmosphere of research and scholarship for both students and faculty. Twenty programs are currently conducted by the graduate faculty of the schools of dentistry, medicine, nursing, pharmacy, and social work and community planning on the UMB campus.

As evidence of the increased emphasis on academic research, the number of graduate degrees awarded by the School of Medicine graduate programs has increased substantially over the past 10 years. During the past academic year, 112 graduate students were enrolled in graduate programs within the School of Medicine.

RESIDENCIES AND FELLOWSHIPS

Graduate specialty programs for residents and fellows at the University of Maryland Hospital are approved by the Council on Medical Education of the American Medical Association and in Dentistry by the American Dental Association.

The approved first-year resident (G-1) positions are filled through the National Residency Matching Program. Included are categorical (rotating and straight) residencies in anesthesiology, family medicine, medicine, neurology, obstetrics-gynecology, pathology, pediatrics, rehabilitation medicine, and surgery. Approximately 480 resident and fellowship positions, 110 of which are for first-year residents, are available in the following specialty areas:

Department of Anesthesiology: anesthesiology

Department of Dentistry: oral surgery and general practice dentistry

Department of Family Medicine: family medicine

Department of Medicine: cardiology, dermatology, endocrinology, gastroenterology, infectious disease, internal medicine, and renology

Department of Neurology: neurology

Department of Obstetrics and Gynecology: obstetrics-gynecology

Department of Ophthalmology: ophthalmology

Department of Pathology: clinical and anatomical pathology

Department of Pediatrics: pediatrics and pediatric allergy

Primary Care Program: internal medicine and pediatrics

Department of Psychiatry: psychiatry and child psychiatry

Department of Radiation Therapy: radiation therapy

Department of Radiology: radiology and nuclear medicine

Department of Rehabilitation Medicine: rehabilitation medicine

Department of Epidemiology and Preventive Medicine: preventive medicine

Department of Surgery: general surgery, neurosurgery, orthopaedic, otolaryngology, thoracic and cardiovascular, urology

Appointments to residencies are made by the director of the hospital, upon the recommendation of the appropriate clinical department chairperson. Correspondence, applications, and residency inquiries should be addressed to the chairperson of the respective department or program at: University of Maryland Hospital, 22 South Greene Street, Baltimore, Maryland 21201.

PROGRAM OF CONTINUING MEDICAL EDUCATION

The University of Maryland School of Medicine is concerned with three phases in the education of physicians: undergraduate, graduate, and postgraduate or continuing medical education. Recognizing its responsibility to the people and physicians of Maryland, the medical school strives to make continuing medical education as meaningful and accessible to the state's physicians as possible. Such a commitment is fulfilled through the Program of Continuing Medical Education, administered by the Assistant Dean for Continuing Medical Education and a full-time staff, with the assistance of a faculty committee on continuing medical education. The programs offered are approved by the American Medical Association for credit in Category 1, towards its Physician's Recognition Award. Courses and other educational activities sponsored by this program can also be used by a physician to meet the Maryland requirements for relicensure.

Continuing education is essential to maintaining the skills and competence of the physician. All professions, but especially physicians, are called upon by society to continue to learn. The physician must rely upon continuing education programs to bring to his practice new medical knowledge as it becomes available. This is accomplished in a variety of ways including individualized continuing education (such as journal reading, audio cassettes, consultation, and preceptorships); hospital-based continuing education (rounds, conferences and other formal presentations in the community hospital); and formal lectures, seminars and workshops.

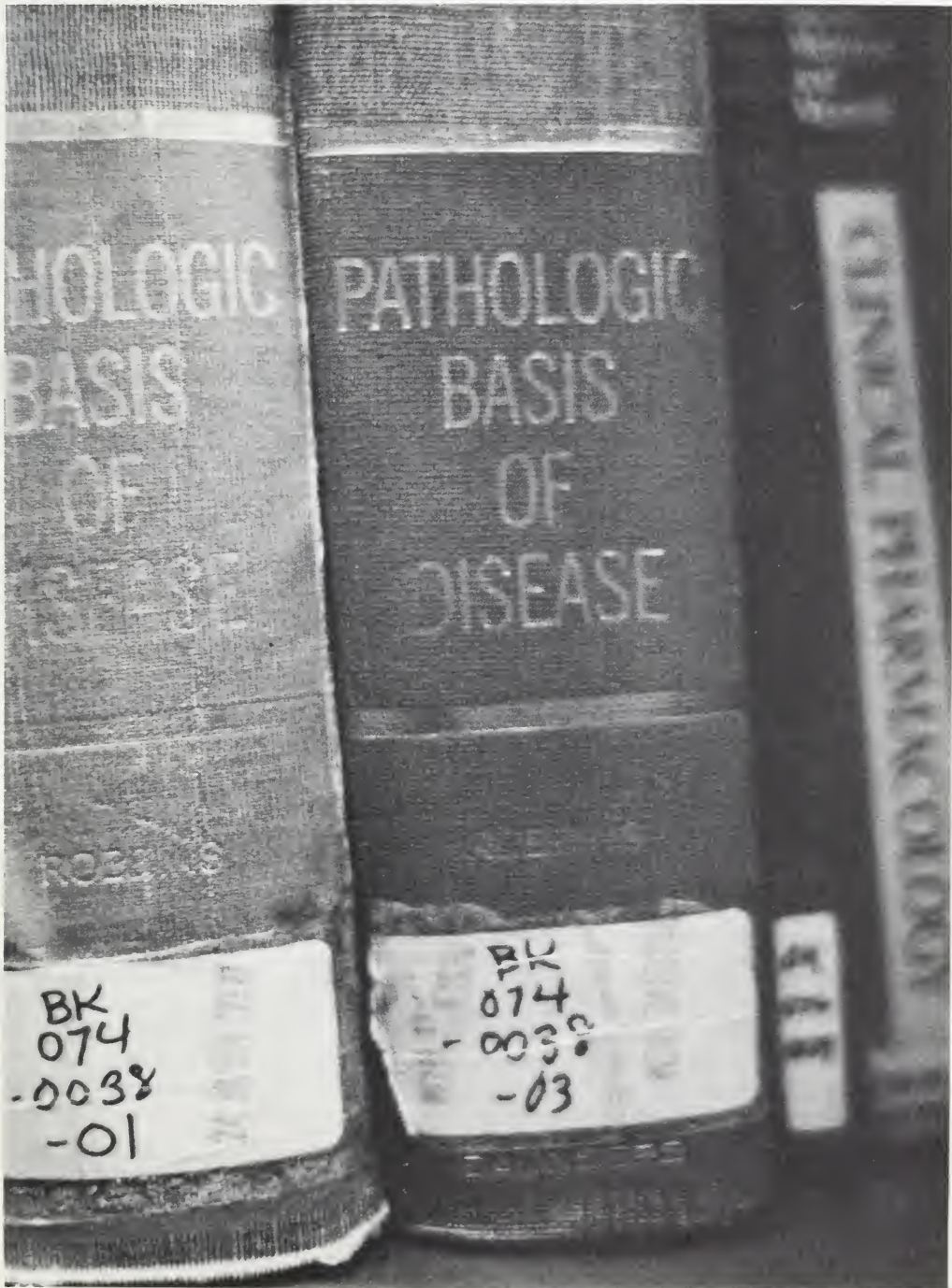
Dedicated to this philosophy, the Program of Continuing Medical Education, in close cooperation with the departments and divisions of the School of Medicine, annually prepares a comprehensive program of continuing medical education activities to provide relevant and new information to Maryland physicians. To the greatest extent possible, the program is structured around the educational needs of practicing physicians. Both the type and content of the instructional programs, as well as their instructional design, are varied in order to satisfy the learning needs of as many physicians as possible. A special effort is made to provide learning situations in the local hospital and other health care settings where the physician practices daily.

Through the Visiting Professor Program, the medical school provides continuing education opportunities in community hospitals where they are convenient and accessible to the practicing physician. These programs are often developed in response to the hospitals medical care audit activities. In addition, a wide variety of one to three-day symposia are presented each year on general and subspecialty topics of current interest. Other educational opportunities are also offered on the medical center campus and range from weekly Grand Rounds in the various major disciplines of medical practice to special evening refresher courses.

Another important effort is the opportunity given to the practicing physician who wishes to return as a trainee to the medical center. Through the Visiting Practitioner Program, physicians enter an individualized refresher course of graduate training for a limited period of time varying from one to several weeks.

Additionally, close cooperation with the Office of Medical Education makes the extensive audiovisual resources of the medical school available for use in continuing medical education programs, both on and off campus. The Office of Medical Education also provides for a lending library of audiovisual and other materials which can be used in individualized continuing education by practitioners throughout the state. Contact is also maintained with the other providers of continuing medical education within Maryland in an effort to coordinate continuing medical education activities for the state's practitioners.

COURSE OFFERINGS



ANATOMY

Professor and Chairman

Lloyd Guth, MD

Professors

E. C. B. Hall-Craggs, PhD

Marshall L. Rennels, PhD

K. C. Richardson, MSc

M. Wharton Young, MD, PhD

Associate Professors

Charles P. Barrett, PhD

Edward J. Donati, PhD

Karl F. Mech, Sr., MD

Tae H. Oh, PhD

Paul J. Reier, PhD

Charles R. Shear, PhD

Judy M. Strum, PhD

Andrew A. Zalewski, MD

Assistant Professors

Larry D. Anderson, PhD

Melvin Bulmash, DDS

John D. Gearhart, PhD

Anne N. Hirshfield, PhD

Mary Lou Oster-Granite, PhD

David W. Pumplin, PhD

Rosemary P. Rees, PhD

Frances P. Schulter-Ellis, PhD

Research Assistant Professor

George J. Markelonis, PhD

The Department of Anatomy provides instruction in the various anatomical sciences. Courses are offered to both medical students and to graduate students working toward a MS or PhD degree. The primary educational goal of the department is to provide basic understanding of the structure of the human body as related to function. Where relevant, important clinical and research applications of the material under study are described. The study of human structure includes all levels from gross morphology seen in the dissecting room to the fine structure as revealed with the electron microscope. Special emphasis is placed on the study of neuroscience where neuroanatomy is taught in an integrated format with neurophysiology, neurochemistry, neurobiology, and clinical neurology.

A knowledge of anatomy is essential to the proper understanding of clinical practice. Since anatomy is a broad and relatively precise discipline, there is a heavy demand upon each student's study time. Accordingly, the courses are designed to help students with their own learning process, as well as to provide a comprehensive treatment of the subject including both theoretical lectures and practical laboratory assignments.

All full-time members of the department are actively engaged in research, the diversity of which reflects a wide range of interests. The faculty also offers a variety of advanced courses to medical and graduate students in the anatomical sciences.

UNDERGRADUATE MEDICAL PROGRAM

First Year

MANA 505. Genetics. This course is primarily designed for nursing students. Basic principles of human and medical genetics are stressed with attention given to underlying mechanisms of genetic disorders of man. Other areas developed are congenital malformations, developmental genetics, probability, and genetic counseling.

MANA 511. Anatomy of the Human Body. This course provides the student with a comprehensive understanding of the morphology of the human body. The basic concepts of structure as they are related to function are described in lectures and demonstrations. Laboratory facilities are provided for dissection of the human body and for the study of osteology and dissected material. The course includes instruction in living anatomy, roentgen anatomy and clinical correlation. (Dr. Hall-Craggs and Staff)

MANA 512. Histology and Cell Biology. This course offers students a basic knowledge and understanding of the microscopic structure of the human body including developmental anatomy and all fine structure. The interdependency between structure and function in the different tissues and organs of the body is emphasized. Clinical and research applications of the course material are also stressed. Histological slides are provided for laboratory study and special lectures are given on functional ultrastructure. (Dr. Guth and Staff)

MANA 513. Neurological Sciences. This course provides an integrated study of neuroanatomy, neurophysiology, and neurochemistry. The structure and function of the central nervous system are presented simultaneously. Facilities are provided for dissection of the human brain, examination of stained microscopic sections of various levels of the brain stem, and laboratory experience involving the study of functional aspects of the nervous system. (Dr. Rennels and Staff)

MANA 514. Genetics. This course comprises a series of one-hour lectures which include a basic consideration of the principles of genetics, population genetics, biochemical genetics, radiation genetics, immunogenetics and microbial genetics. Special emphasis is placed on the role of genetics in health and disease. (Dr. Sigman)

Electives

Gross Anatomy and a number of special electives are available to clinical and preclinical students. These are listed in the graduate school and medical school elective catalogs.

ANESTHESIOLOGY

Professor and Chairman

Martin Helrich, MD

Professor

Samuel I. Joseph, MD

Clinical Professors

T. Crawford McAslan, MB, ChB
Peter Chodoff, MD

Associate Professors

Colin F. Mackenzie, MB, ChB
M. Jane Matjasko-Chiu, MD
Beatrice L. Selvin, MD
Baekhyo Shin, MD

Clinical Associate Professors

Lionel Glassman, MD
Peter M. S. Margand, MD

Assistant Professors

Michael N. Ashman, MD
Susan M. Cohen, MD
Romeo S. Del Rosario, MD

Edwin J. Goldman, MD

Gwynne L. Horwits, MD

Lucille A. Mostello, MD

Mario L. Penafiel, MD

Clinical Assistant Professors

Sheppard Kaplow, MD
Melvin L. Keller, MD
Michael Liteanu, MD
Merrill E. Parelhoff, MD
John K. Stene, MD
Padmini Thomas, MB, BS
Zoena Yannakakis, MD

Instructors

Jawad U. Hasnain, MD
Chul J. Lee, MD

Clinical Instructors

Murray A. Kalish, MD
Deepika Krishnaprasad, MB, BS
Frank D. McCormack, MD

During the second year the core curriculum in anesthesiology is presented as part of the "Introduction to Clinical Practice."

In addition, during the first two years the department participates in lectures, conferences and laboratory exercises of various preclinical departments. Such participation is intended to illustrate the application of basic science principles to the clinical practice of anesthesiology. Emphasis is placed on the physiologic and pharmacologic basis for preanesthetic medication, choice of anesthesia and the management of patients before, during and after surgery.

Electives of varying orientation and complexity are provided during all of the four years. These include clinical anesthesiology, obstetrical anesthesia, and critical care medicine. Further information and details concerning the elective courses may be found in the electives catalog or by contacting the department chairperson.

BIOLOGICAL CHEMISTRY

Professor and Chairman

Adil E. Shamoo, PhD

Professors

Enrico Bucci, MD, PhD
Leonard H. Frank, PhD
Mary E. Kirtley, PhD
Seymour H. Pomerantz, PhD

Associate Professors

Lindsay W. Black, PhD
Joseph Lakowicz, PhD
Barry P. Rosen, PhD
Charles J. Waechter, PhD

Research Associate Professor

Clara F. Bucci, PhD

Assistant Professors

Radhakrishnan Padmanabhan, PhD
Stamatios E. Polakis, PhD

Visiting Assistant Professor

Hiroshi Kanazawa, PhD

Research Associates

Anwar S. Abd El Fattah, PhD
Indu S. Ambudkar, PhD
Suresh V. Ambudkar, PhD
Sheila B. Bond, PhD
Wood-Hi Cheng, PhD
Denise Eby, PhD
Tom R. Herrmann, PhD
Veeraswamy Manne, PhD
Uliyar Mani, PhD
Sengoda G. Ramaswamy, PhD
Malka Scher, PhD
Patricia M. Sokolove, PhD
Neil Eric Sorenson, PhD
Osamu Tokunaga, MD, PhD
Lichun H. Walls, PhD
Tazuko Yaegashi, PhD
Donna L. T. S. Young, PhD
Arthur L. Zachary, PhD
Gary W. Zlotnick, PhD

Biochemistry is the subject that seeks to understand the phenomena of biology in terms of molecular structure and interaction. As such, it permeates all of biology and medicine and is a fundamental prerequisite to other medical sciences, especially pharmacology, microbiology and pathology, as well as the clinical subjects.

A teaching goal of the department is to present a concise but comprehensive lecture-conference course including as major subjects: proteins, enzymes, nucleic acids, intermediary metabolism of major food stuffs, energy production and utilization, chemical aspects of hormones, protein and nucleic acid biosynthesis and biochemical genetics. In addition, the introductory medical course includes a systematic series of sessions organized with the Department of Medicine which demonstrate the application of biochemistry to the understanding of human metabolic disorders.

Because some entering students have had a reasonably thorough exposure to biochemistry, the department offers a place-out examination during the first week of the freshman year.

In connection with the elective program embodied in the revised curriculum, a number of special seminar-conference topics are offered in both the January and June electives period. Details and description of course offerings can be found in the electives catalog. Additionally, students with special interests in biochemical investigation are encouraged to ask faculty members about opportunities for part-time or summer research. Limited funds have been available to support part-time research assistants from the medical classes.

The department also offers a doctoral program and a series of advanced course (see Graduate School Catalog). Research interest of the staff include a number of areas in metabolism and enzymology (both mammalian and microbial), transport and membrane biochemistry, enzymology and regulation of melanin pigmentation, collagen structure and metabolism, hemoglobin biochemistry, genetics and morphogenesis of viruses, and regulation and synthesis of glycoproteins.

UNDERGRADUATE MEDICAL PROGRAM

First Year

MBIC 510. Biochemistry. An introduction to the later preclinical and clinical subjects, the

course is presented in the first semester and is oriented toward mammalian metabolism and enzymology and those aspects of general biochemistry common to all organisms. A separate, but closely related course, correlative medicine, brings clinical correlation to the biochemical material in a series of weekly presentations of scientific clinical lectures, sometimes centering around a patient. (Dr. Shamoo and staff)

Fourth Year

MBIC 548. Research Elective. This gives the student the opportunity to work with various faculty members in the following areas: 1) amino acid metabolism, collagen structure and metabolism, and amino acid racemases and epimerases; 2) biochemistry and genetics of virus development and assembly, as well as regulation of development; 3) physical-chemistry and chemistry of proteins; 4) microbial metabolism and physiology, as well as membrane transport of amino acids; 5) regulation of enzyme action by allosteric interactions; 6) melanin formation and its regulation in mammals; 7) membrane structure and function in mammalian and microbial systems; and 8) membrane glycoprotein and phospholipid biosynthesis. (Dr. Shamoo and staff)

BIOPHYSICS

Professor and Chairman

Lorin J. Mullins, PhD

Associate Professor

Albert Hybl, PhD

Professors

Hugo Gonzalez-Serratos, MD, PhD

Raymond A. Sjodin, PhD

Assistant Professor

Robert J. French, PhD

It is the aim of the Department of Biophysics to provide medical students with a background in the physicochemical principles necessary to an understanding of physiology and the neurosciences.

The department offers a program of graduate study leading to the PhD degree. Study programs are flexible and depend upon the preparation and interest of the student. Arrangements for a combined MD-PhD program are available on an individual basis.

Information regarding requirements, graduate courses offered, and research interests of the staff are available from the department at 660 W. Redwood Street, Baltimore, Md. 21201. Deadline for graduate applications is March 1.

UNDERGRADUATE MEDICAL PROGRAM

First Year

MBPH 510. Principles of Biophysics. This course is given in cooperation with the Department of Physiology and is required of medical students. It is comprised of an introduction to cell physiology with special emphasis on osmotic and electrolyte balance in cells, the processes underlying the generation of the membrane potential, the mechanisms involved in electrical excitation of nerve, the transfer of excitation across synapses, and the mechanism of muscle contraction. (Staff)

Electives open to First, Second, Fourth Year Students

MBPH 511. Topics in Membrane Biophysics and Physiology Elective. This course covers the following: 1) Fundamentals of membrane permeability and transport; 2) enzymatic basis for active transport; 3) nerve excitation and conduction (cable properties and biophysical analysis); 4) muscle contraction and excitation-contraction coupling; and 5) selected topics of possible clinical significance. (Dr. Sjodin)

MBPH 512. The Application of Computers to Medicine Elective. This program introduces the student to the uses of computers in the biosciences and medicine. Each student will have an opportunity to acquire experience using a terminal to interact with a computer. An introduction to the techniques needed to undertake digital simulation of physiological processes, statistical analysis, plotting and FORTRAN programming will be presented. (Dr. Hybl)

DIAGNOSTIC RADIOLOGY

Professor and Chairman

Joseph Whitley, MD

Professors

John N. Diaconis, MD
Gerald S. Johnston, MD
Nancy O. Whitley, MD

Clinical Professors

Franklin L. Angell, MD
Stanley S. Siegelman MD

Associate Professors

Edward U. Buddemeyer, PhD
Matthew Freedman, MD
Peter Joseph, PhD
Krishna Rao, MD

Clinical Associate Professors

James E. Bell, MD
Stanford M. Goldman, MD

Assistant Professors

Joseph Bush, MD
Stephan Cisternino, MD
Morgan G. Dunne, MB
Christopher Feifarek, MD
Phillip J. Haney, MD
Theodore L. Houk, PhD

Erlinda S. McCrea, MD
Ole E. Ottesen, MD
Larry A. Spitznagle, PhD
Sandra L. Warner, MA, JD

Clinical Assistant Professors

Robert E. Dinker, MD
Lee Goodman, MD
Prasarn Nilprabhassorn, MD
James A. Quinlan, Jr., MD
Charles I. Weiner, MD

Instructors

Beatriz A. Arrieta, BA
Leonard P. Baker, MD
William Goldstein, MD
Harry C. Knipp, MD
Cynthia E. Rice, BS, RT
Mark Vaccaro, MD
Michael J. Walter, BS, RT

Clinical Instructors

Niel J. Borrelli, MD
Warren D. McNeely
Michael Sherman, MD
George Silverton, MD

Since German physicist Wilhelm Conrad Roentgen discovered the x-ray in 1895, its use has been greatly expanded in our society. The greatest advances have been in medicine where radiography now makes or verifies the diagnosis in three out of four cases of organic disease. With the recent advent of nuclear medicine, ultrasonography and the computed generated tomography, imaging is playing a still more extended role in diagnosis by guiding needle biopsies, more accurately staging disease, following therapeutic response and helping perform selected therapeutic procedures.

UNDERGRADUATE MEDICAL EDUCATION

The Department of Diagnostic Radiology offers the medical student an opportunity to acquire a broad base of knowledge touching on almost all aspects and subspecialties of medicine. The required curriculum begins with Radiologic Anatomy taught in conjunction with Gross Anatomy (MANA 511) in the first year. This portion of the curriculum consists of lecture demonstrators and a group slide-tape series, "Introduction to Radiographic Anatomy." Formal instruction continues in the third year with the course RADI 540. The required curriculum is supplemented with informal case discussions with the staff and contact through interdepartmental rounds and conferences involving diagnostic radiology while the student is on other clinical rotations at the University of Maryland Hospital.

Third Year

RADI 540. Basic Radiology. Groups of students are assigned for a period of three weeks to the Department of Diagnostic Radiology. The group is subdivided to allow individual instruction as the student rotates through brief observation periods in selected subspecialties within the department. Students also receive an on-site introduction to the Department of Therapeutic Radiology. Reading assignments in conjunction with small group slide-tape series, teaching file studies and lectures form the core of the learning experience. Students also attend departmental conferences and some of the joint conferences with other departments. An objective final examination is included in the course. (Dr. J. Whitley)

Third and Fourth Year

Diagnostic Radiology Elective. For the student who desires to learn more about properly using and interpreting diagnostic imaging of a specific type or paralleling a specific clinical subspecialty, a flexible four-week course is available. The precise curriculum, agreed upon in advance, must be tailored to the student's perceived needs and desires. The student is expected to investigate some aspect of radiology thoroughly and, with the aid of a faculty advisor, make a final 20-minute presentation to the faculty and residents which forms a major evaluator for the elective. **RADI 540** is a prerequisite. (Dr. J. Whitley)

GRADUATE PROGRAM

A four-year residency is offered in diagnostic radiology at the University of Maryland Hospital. Fellowships are offered in neuroradiology, vascular radiology, computed body tomography/ultrasonography and nuclear radiology.

EPIDEMIOLOGY & PREVENTIVE MEDICINE

Professor and Chairman

Irving I. Kessler, MD, DrPH

Professors

Paul L. Canner, PhD
George Entwisle, MD
Charlotte Ferencz, MD, MPH
Peter V. V. Hamill, MD, MPH
Christian R. Klimt, MD, DrPH
Genell L. Knatterud, PhD
Roger W. Sherwin, MB, BChir
William S. Spicer, Jr., MD
Matthew Tayback, ScD

Adjunct Professor

Alan L. Sorkin, PhD

Associate Professors

Aristide Y. Apostolides, DVM, PhD
Joseph Berman, MD, MPH
Peter Chodoff, MD, MPH
John R. Hebel, PhD
Myron M. Levine, MD, DTPH
Mary M. Sexton, PhD

Adjunct Associate Professors

Genevieve M. Matanoski, MD, DrPH
Richard F. Morton, MB BS, MPH
Benjamin D. White, MD, MPH

Assistant Professors

Kenneth R. Berger, MD, PhD
Robert E. Black, MD, MPH
Patricia C. Dischinger, PhD
Nancy H. Doub, PhD
Susan H. Fischman, DrPH
Marian R. Fisher, PhD
Linda L. Hulbert, PhD
Helen R. Kohler, PhD

Brigita M. Krompholz, MD, MPH

Ruey S. Lin, MD, DrPH

Kiyohiko Mabuchi, MD, DrPH

Robert J. McCarter, ScD

Judith D. Rubin, MD, MPH

Peter Warschawski, PhD

P. David Wilson, PhD

Clinical Assistant Professor

Noel D. List, MD, MPH

Adjunct Assistant Professors

Susan P. Baker, MPH

Margaret W. Bridwell, MD

John B. De Hoff, MD, MPH

Paul East, MB BS, MPH

James P. G. Flynn, MD, MPH

David Glasser, MD, MPH

Willard L. Graves, PhD

Leon Kassel, MD

John L. Pitts, MD, MPH

James G. Zimmerly, MD, MPH, LLD

Instructors

Rachel Z. Booth, PhD

Gerard J. Prud'Homme, MA

Sol Su, ScD

Associates

David C. Daughaday, MBA

Sandra A. Forman, MA

Barbara L. Hawkins, MS

Peter P. Lamy, PhD

Constance M. McDonnell, MMH

Eileen E. Rudert, BA

Clinical Associate

Jutta D. Heiner, MD

Research Associate

James F. Gardner, ScM

Epidemiology is a relatively new biomedical discipline which lies at the interface of clinical practice and basic medical science. The clinical arena within which epidemiologists work is termed *preventive medicine*. The effective practice of epidemiology and preventive medicine requires a comprehensive knowledge of clinical medicine and basic medical science, as well as of experimental methodology, biostatistics and the social sciences.

The department is engaged in an active program of teaching, research and service. Principles and practice of epidemiology, biostatistics and preventive medicine are taught in the first, second and fourth years of the curriculum. A summer fellowship program in which students engage in epidemiological projects under faculty supervision and participate in departmental seminars and workshops is also offered. All students are invited to the general seminars, resident seminars, epidemiology journal clubs and statistics/computing journal clubs which are scheduled each week throughout the academic year.

An approved three-year residency leading to certification in general preventive medicine is offered to clinically qualified applicants. The program is designed to satisfy a wide variety of professional aspirations. These include theoretical or field epidemiology, hospital or health care administration, biostatistics, as well as clinical preventive practice.

Current departmental research activities encompass:

1. Development of a *statewide trauma registry* in collaboration with The Maryland Institute for Emergency Medical Services Systems.
2. Design and conduct of a *household health evaluation survey* among 1,000 families in West Baltimore.
3. A variety of investigations in *cancer pathogenesis*, including: genital herpesvirus in cervical cancer; prognostic factors in bladder papillomata; lymphoid organs in neoplasia and cancer risks among the tuberculous;
4. A broadly-based program of studies in *hypertension*, including MRFIT and Hypertension Detection Demonstration Projects;
5. Collaborative *clinical trials* in coronary disease and diabetes mellitus;
6. Development of methods for identifying *occupational groups at high risk* of cancer and other diseases;
7. Studies in *pediatric epidemiology* and birth defects;
8. Evaluation of *geriatric, urban and rural area health education* center programs established under state mandate;
9. An interdisciplinary clinical trial on the role of caregivers in reducing institutionalization rates among the *impaired elderly*; and
10. *Health care evaluation and hospital performance studies*.

The community service activities of the department are carried out through active collaboration in health planning, research and evaluation with a number of agencies and institutions concerned with health problems. These include local and state hospitals, clinics and health departments, the Baltimore City and Maryland medical societies and a variety of other federal and voluntary organizations.

UNDERGRADUATE MEDICAL PROGRAM

First Year

The department's teaching in the first year is coordinated with that of the Department of Psychiatry in the core course, Behavioral and Social Sciences (PSYH 510). Special emphasis is placed on the use of epidemiological methods to analyze the relationships between social and organizational factors and health status. Structural components of the health care system, such as alternative modes of health care delivery, as well as the availability and utilization of different levels of care and referral patterns, are described with special reference to the quality of health care.

PREV 520. Epidemiology

Epidemiology & Preventive Medicine (30). First Semester. This course presents the methodologies available for evaluating the distribution and determinants of disease. Biostatistical concepts are introduced to enable the student to evaluate clinical and research findings published in the medical literature. Topics include: investigation of an epidemic, measures of mortality or morbidity, measures of risk, biological variability, disease screening, sampling, statistical significance, correlation, types of epidemiological studies, and interpretation of associations between risk factors and disease. (Dr. Hebel and Staff)

Clinical Epidemiology (32). Second Semester. The distribution patterns, natural history, risk factors, and methods for control of selected diseases of public health importance are presented. Topics include a variety of genetic, infectious and chronic diseases. Lectures are interspersed with panel discussions by faculty members. (Dr. Berger and Staff)

Fourth Year

PREV 540. Preventive Medicine in Clinical Practice. This course consists of 12 three-hour seminars held in conjunction with the Ambulatory Medicine clerkship. The application of preventive medicine, epidemiology and statistical reasoning to clinical practice is emphasized.

The major causes of morbidity and mortality during each of the life epochs are discussed. Emphasis is upon the role of the individual practitioner in primary and secondary prevention of disease among children, adolescents, adults and the elderly. Other sessions deal with relationships between physicians and other components of the health care system, including hospitals, nursing homes, regulatory agencies, health insurance plans and the law. Patients with problems of special interest are discussed in conjoint clinical conferences. (Drs. Rubin and Sherwin)

Electives

During the January and June minimesters, students may select coursework covering such diverse topics as medical biostatistics, long-term disability, parent-child-physician interactions, prevention of birth defects and biomedical computer programming.

At other times, electives are also available in biostatistics (both basic and advanced), clinical geriatrics and gerontology, intermediate social statistics, and organizational and management theory in health care.

Students are advised to check the Epidemiology and Preventive Medicine section of the electives catalog for further information.

FELLOWSHIPS AND HONORS PROGRAMS

Summer fellowships and honors programs in preventive medicine are available to a limited number of students. Working closely with a faculty member, each undertakes a research project in preventive medicine, health care evaluation, epidemiological inquiry, computer applications or statistical analysis. The program also includes seminars and workshops which provide an opportunity for interaction among students, preventive medicine residents and faculty members. Elective credit is given to those who satisfy the requirements of the program.

GRADUATE AND POSTGRADUATE STUDIES

The Department of Epidemiology & Preventive Medicine offers a three-year residency program in general preventive medicine which is approved by the American Board of Preventive Medicine. This provides a variety of opportunities for advanced study and practice in epidemiology, clinical trials, health care evaluation, public health administration and biostatistics, as well as clinical preventive medicine.

The distinguishing feature of the program is a one- or two-year field apprenticeship in which the resident assumes responsibility for planning, executing and evaluating a substantial project in health care evaluation, gerontology, emergency medical services, community health, clinical trials or epidemiology under close faculty supervision. Other learning experiences include weekly departmental seminars, resident seminars, workshops and journal clubs.

Combined residency programs may be arranged for qualified applicants in conjunction with Family Medicine, Rehabilitation Medicine, Pediatrics, Internal Medicine and other clinical departments. These would enable the resident to qualify for board eligibility in both preventive medicine and the clinical specialty.

FAMILY MEDICINE

Professor and Chairman

Edward J. Kowalewski, MD

Associate Professors

LeRoy T. Davis, MD

J. Roy Guyther, MD

C. Earl Hill, MD

W. Douglas Weir, MD

Assistant Professors

Alva S. Baker, MD

Emidio A. Bianco, MD

Joseph B. Bronushas, MD

Caroline F. Define, MD

Michael V. Edelstein, MD

Eugene Guazzo, MD

Peter M. Hartmann, MD

John M. Hoopes, PharmD

Howard M. Klein, MD

Christopher L. Krogh, MD

Herbert L. Muncie, MD

George A. Taler, MD

M. William Voss, MD

Daniel I. Welliver, MD

Clinical Assistant Professor

Alfred J. Daniels, MD

Instructors

Walter J. Alt, MD

Damian E. Birchess, MD

William T. James, BS

John P. Krick, MSW

Theresa M. Novak, MEd

Clinical Instructors

Michael J. LaPenta, MD

Charles R. Payling-Wright, MD

Lawrence I. Silverberg, DO

The Department of Family Medicine educates and trains family physicians who are capable of rendering high quality medical care and service to individual patients and families in a continuous and comprehensive manner. The family physician has total responsibility for patient care at the point of entry into the health care system and acts as coordinator of health care at secondary, tertiary, and long-term care phases of illness.

The department offers family medicine educational experiences for students in a model family practice setting, on the in-patient service, and through an interdisciplinary longitudinal system of career planning which is guided by a full-time staff of experienced family physicians. Further, students are afforded the opportunity to gain community hospital exposure, to participate in community health services and controlled practice experiences, as well as to engage in basic health care research.

Within the scope of its activities, several areas are emphasized. The department has a Division of Geriatrics and is a national leader in geriatric education. Multiple programs, both departmental and interdisciplinary, are in place or being formulated. A campus leader in sports medicine, the department offers a highly successful and popular minimester course on the topic. Faculty development is a major departmental concern. Courses and workshops in "teaching skills" are offered to postdoctoral students. Beginning in January 1981, a minimester course will be offered to predoctoral students as well.

A required rotation by all predoctoral medical students during the clinical years has been approved.

UNDERGRADUATE MEDICAL PROGRAM

Longitudinal Elective. Introduced into the curriculum in 1976, this elective permits the student interested in family medicine to decide on and gain knowledge toward that career objective. Included in this offering are interesting field trips, seminars, panel discussions, and preceptorship experiences. Topics include historical medical perspectives; the economics of

medicine; the humane approach to patient care; interrelationships between patient, family, community and physician/medical profession, to name a few. Throughout the four years of medical school, the student will assume responsibility for the welfare of a limited number of families. (Dr. Voss)

Minimester Electives. During the months of January (not available to freshman students in January) and June, students may elect to spend time in the office of a selected family physician in order to gain knowledge of the health care system at that level. In this setting, the student may opt for patient care participation and/or engage in some health care research in that ambulatory population. (Dr. Voss)

Family Practice Preceptorships. This elective enables the student to gain insight into the life style of a family physician in a community practice setting and further demonstrates what family practice involves. Here the student has the opportunity to see the scope of the work of the family physician and participate with the family physician as he encounters and manages the diverse problems seen in a busy family practice. The student has the unique opportunity to understand each patient in relationship to his family, his job, and his total environment. Additionally, it permits the student to understand the physician's place in society, his social and civic obligations and responsibility to patients. This elective is available for four or six week periods, usually during the summer. (Dr. Guyther)

Senior Elective in Family Practice. Students will spend much of their time caring for families in the model family practice unit, the Family Health Center. They will have the opportunity to manage, under supervision, a multiplicity of problems typical of a busy family-oriented group practice. Other medical professionals are available for consultation and there is ample opportunity for coordinated, continuous care on a short-term basis. Field trips (which will augment the student's experience) are available by special arrangement. (Dr. Voss)

Senior Internship in Family Practice. The Department of Family Medicine offers an eight-week internship to senior students. The program's major emphasis is on assuming responsibility for patient care, while stressing quality continuity of care for outpatients, acute care inpatients, and extended care patients. Students spend a portion of their time in the out-patient area with responsibility for a select group of patient/families. Another part of their time is spent following and being primarily responsible for a select number of patients on an in-patient service. Additionally, they will have responsibility for a number of patients at a nearby extended care facility. They will be expected to take part in a rotation, under supervision, for night and weekend call. (Dr. Voss)

GRADUATE MEDICAL PROGRAM

Maryland's three-year approved residency in Family Medicine is historically the second oldest in the country. Its goal is to provide a full breadth of family practice training that is required by the essentials for a family practice residency. Governed by these essentials and implemented by innovative educational methods is a philosophy designed to educate a physician in all aspects of modern family practice, as established in the "Core Content of Family Practice." Flexibility is built into the program to accommodate the specific need of the trainee and the basic health care needs of the community in which he or she will eventually serve as an individual practitioner or as a member of a group. (Dr. Hill)

CONTINUING EDUCATION PROGRAMS

This phase of the Maryland program is based on the philosophy that the family physician's education must be a continuum throughout his or her entire career and for the additional purpose of preparing each graduate to successfully pass each recertification examination as required by the American Board of Family Practice.

A variety of continuing education programs is offered, ranging from short didactic courses to extensive in-depth courses in system-oriented clinical subjects, to tailored individual courses to fulfill the specific needs of a physician. Information on current and projected courses is available at all times from the Department of Family Medicine or the Program for Continuing Medical Education.

INTERNAL MEDICINE

Professor and Chairman

Theodore E. Woodward, MD

Professors Emeriti

Edward F. Cotter, MD

Ephraim T. Lisansky, MD

Professors

James C. Allen, MD

Sheldon E. Greisman, MD

Gerald S. Johnston, MD

James R. Karns, MD

Joseph A. Mead, MD

Morton I. Rapoport, MD

William S. Spicer, Jr., MD

William D. Tigertt, MD

Associate Professors

Joseph Aisner, MD

Mohamed S. Al-Ibrahim, MB, ChB

John S. Britten, MD

Edward U. Buddemeyer, ScD

Ben R. Dawson, MD

Felix P. Heald, MD

Stanley B. Kahane, MD

Herbert A. Kushner, MD

Donald M. Pachuta, MD

Robert T. Parker, MD

Julian Reed, MD

Charles L. Whitfield, MD

George D. Yannakakis, MD

Phillip P. Zieve, MD

Clinical Associate Professor

Sheldon Amsel, MD

Assistant Professors

Aristides C. Alevizatos, MD

Jack Applefeld, MD

John L. Atkins, MD

George M. Breza, MD

Cedric W. Bryan, MD

Joseph H. Burkle, MD

Nijole B. Carozza, MD

Anthony DeMunecas, MD

Charles H. Diggs, MD

Salvatore Donohue, MD

George Entwisle, MD

Robert J. Esterhay, Jr., MD

Wilbur Fiscus, MD

Carmen A. Fratto, MD

Ronald W. Geckler, MD

L. Michael Glick, MD

Davis M. Hahn, MD

Samuel Hankin, MD

Daniel C. Hardesty, MD

Wally S. Hijab, MB, ChB

Richard S. Kaplan, MD

Michael Keleman, MD

Leon Kochman, MD

John A. Levi, MRACP

J. Leonard Lichtenfeld, MD

Karen Lichtenfeld, MD

Noel D. List, MD

Martin Y. Magram, MD

John Merritt, MD

Sheldon D. Milner, MD

Marguerite T. Moran, MD

John H. Mulholland, MD

Joseph D. Notarangelo, MD

Michael J. O'Connell, MD

Samuel I. O'Mansky, MD

James Quinlan, MD

Arthur Serpick, MD

Robert M. Shannon, MD

Charles E. Shaw, MD

Joseph Shear, MD

Roland T. Smoot, MD

William A. Valente, MD

David Van Echo, MD

Celeste L. Woodward, MD

Michael Yen, MD

Clinical Assistant Professors

Eugene V. Mazzocco, MD

Wayne C. Spiggle, MD

Instructors

Perry Austin, MD

William Dear, MD

Park M. Espenschade, Jr., MD

Renato R. Espina, MD

Raul V. Felipa, MD

Vincent J. Fiocco, MD

Darrell M. Gray, MD

Miguel Karacuschansky, MD

Bernard S. Karpers, MD

James McPhillips, MD

George R. Medalie, MD

Edward M. Miller, MD

James J. Nolan, MD

Jeffrey L. Quartner, MD

Associates

Charles Blazek, MD

Joseph Furnary, MD

Walter Karfgin, MD

H. Roebing Knoch, MC

Paul Mueller, MD

Michael F. Plott, MD

Ramon Roig, MD

Lee Samelson, MD

Stanley Steinbach, MD

Wilfred Townshend, MD

Stephen J. VanLill, MD

Ralph Weber, MD

Teaching the broad and specific principles of internal medicine to students and housestaff through patient care and clinical research is the department's main objective. This cannot be accomplished unless patients are studied thoroughly utilizing modern medical techniques which are conducted within an environment conducive to learning. Each subspecialty group is expected to practice the general principles of medicine and perform specialized research. When indicated for the intelligent study of patients' problems, new and specialized diagnostic procedures are provided, such as catheterization, endoscopic and isotope procedures, and application of specialized biochemical, microbiological or immunological tests.

In their teaching, attending physicians are expected to teach the practical aspects of elaborating the medical history, perform a thorough physical examination and utilize definitive techniques which are often performed by consultative subspecialty teams. Rendering care to ambulatory patients in the medical clinics and emergency room is an aspect of practice upon which greater emphasis is placed. In the hospital and clinic settings, attempts are made to emphasize patient care and proper protection of the dignity of the individual.

FELLOWSHIPS

Summer Fellowships. A certain number of the medical subspecialty divisions provide specialized training for students as fellows during the summer months. The applicant is encouraged to apply directly to the division head. These fellowships enable the student to become acquainted with the various specialized diagnostic and research techniques, the clinical problems and therapeutic regimens peculiar to each of the medical subspecialties. Summer fellowships are available in the following divisions: cardiology, dermatology, endocrinology, gastroenterology, hematology, nephrology, infectious diseases, clinical physiology, rheumatology, and pulmonary diseases.

Interested applicants should contact the respective division head prior to January 1 of the year in which the fellowship is desired. In many instances, a fellowship award is made providing remuneration for two or three of the summer months.

Postgraduate Fellowships. These are available in the various specialties of medicine. For details, see the specific division.

UNDERGRADUATE MEDICAL PROGRAM

Third Year

MEDC 530. Clinical Clerkship. This course consists of a clinical clerkship on the medical wards of the University of Maryland Hospital or the Baltimore Veterans Administration Hospital for a period of 12 weeks. Students are responsible, under supervision, for the history, physical examination, laboratory examinations and progress notes of assigned cases. They attend ward rounds and conferences in general medicine with the resident staff, attending physicians and chief of service. The clinical clerk is given instruction in the keeping of medical records including a modified problem-oriented record. The student participates in a daily audit of the medical record with the medical housestaff which serves to provide more efficient hospital care.

Fourth Year

MEDC 541. Medical Clinic-Adult Ambulatory Medicine Elective. The student is offered two choices: 1) morning is spent in the adult medical clinic with responsibility for total patient care, and may spend the remainder of the day under the supervision of the medical admitting officer assisting the management of emergencies and urgent problems; or 2) morning is spent in the medical clinic and afternoon attending subspecialty clinic or clinics of his/her choice.

Students are assigned to the primary care clinics where they gain experience with ambulant patients, gaining insight into the importance of the medical record, techniques of medical audit and the role of the allied health professionals such as the nurse practitioner and the clinical pharmacist in the delivery of health care.

Division of Cardiology

Professor and Head

Leonard Scherlis, MD

Associate Professors

Nathan H. Carliner, MD

Michael L. Fisher, MD

Yu-Chen Lee, MD

Robert W. Peters, MD

Gary D. Plotnick, MD

Robert T. Singleton, MD

Assistant Professors

Albert Antlitz, MD

Mark M. Applefeld, MD

Miriam Cohen, MD

Donald H. Dembo, MD

George Moran, MD

Chris Papadopoulos, MS, BCH

Jerry Salan, MD

Frederick J. Sutton, MD

Instructors

Lawrence F. Awalt, MD

Richard D. Biggs, Jr., MD

Luis F. Gonzalez, MD

Louis Grenzer, MD

Marc A. Mugmon, MD

Elijah Saunders, MD

Barry J. Weckesser, MD

UNDERGRADUATE MEDICAL PROGRAM

Fourth Year

Clinical Cardiology Elective, University of Maryland Hospital. Students participate in patient evaluation and examination under the close supervision of faculty members. Basic concepts of physical examination are stressed and correlated with both noninvasive and invasive techniques of more detailed evaluation. The rotation includes an opportunity for adult and pediatric cardiology training in the clinics, coronary care unit, and graphics laboratory with emphasis on complete patient evaluation, as well as the development of individual areas of interest.

POSTGRADUATE FELLOWSHIPS

Selected applicants participate in the activities of the division including responsibilities for cardiac catheterization, electrocardiographic interpretation, vectorcardiographic interpretation, phonocardiology, echocardiography, and exercise testing. The fellowships begin July 1 of each year and financial stipends are provided. Application is made through the head of the division and should be completed by November of the preceding year.

Division of Dermatology

Professor and Head

Joseph W. Burnett, MD

Professor

Eugene Bereston, MD

Clinical Professor

Albert Shapiro, MD

Associate Professors

Gary Calton, PhD

Joan Raskin, MD

Stanley N. Yaffe, MD

Assistant Professors

Robert M. Adrian, MD

Mouta Dilaimy, MD

Ronald Goldner, MD

William Gould, MD

Kenneth P. Judd, MD

Emmanuel Silverstein, MD

Bahram Sina, MD

M. Eugene Tudino, MD

Clinical Assistant Professors

Carolyn J. Pass, MD

Larry J. Warner, MD

Instructors

William R. Dunseath, MD

Frederick N. Pearson, MD

Charles S. Samarodin, MD

John H. Stone, MD

Irving D. Wolfe, MD

Research Associate

David G. Cargo, MS

UNDERGRADUATE MEDICAL PROGRAM

Third Year

DERM 530. Introduction To Dermatology. Students are assigned reading on the more common skin eruptions. Nine two-hour clinical sessions are held for each quarter of the junior class. Individual instruction is given by one of the senior staff members emphasizing the pertinent aspects of differential diagnosis. Stress is laid in the relationship of cutaneous lesions to internal disease. (Dr. Burnett and Staff)

Fourth Year

DERM 541. Dermatology Elective. Dermatology may be taken as an elective during the fourth year. Students will work together with the dermatology residents in the diagnosis and treatment of patients with skin eruptions. They will actively participate in grand rounds, daily seminars and the weekly journal club. They will also have the privilege of attending the clinical sessions of the Maryland Dermatological Society. (Dr. Burnett and Staff)

GRADUATE STUDIES

Instruction is given in dermal pathology, microbiology, pharmacology, venereology, immunology and clinical dermatology. Trainees are required to attend local and regional Dermatology Society meetings. Attendance is also required at the annual meeting of the American Academy of Dermatology. The division helps to defray expenses for attending this meeting.

Trainees are encouraged to study research methods and to actively participate in studies. Part of the training period is spent at the Veterans Administration Hospital and Mercy Hospital as well as the University of Maryland Hospital.

Division of Endocrinology and Metabolism

Professor and Head

Thomas B. Connor, MD

Professor

John G. Wiswell, MD

Associate Professor

Bruce P. Hamilton, MB, ChB

Assistant Professors

Alfonso H. Janoski, MD

James Mersey, MD

William Valente, MD

Instructors

Issam E. Cheikh, MD

George Lawrence, MD

Luis E. Rivera, MD

Robert Stoner, MD

Associate

Francine D. Camitta, MD

Research Associates

Jennifer H. M. Hamilton, MA

Gregory J. Kuzbida, MA

William Pavlis, MA

UNDERGRADUATE MEDICAL PROGRAM

Second Year

In the second semester an intensive two-week course is given in collaboration with the Departments of Pathology, Pharmacology and Pediatrics emphasizing the pathophysiologic basis for clinical disturbances of endocrine function.

Summer fellowships of eight to ten weeks are also offered to students with emphasis on clinical or research training depending upon the student's interests and capabilities.

Fourth Year

ENDO 541. Clinical Endocrinology and Metabolism Elective. The course provides seniors with a broad clinical experience that is accomplished through a four-week concentrated period of training devoted mainly to a study of patients with clinical disorders of endocrine function. Students are involved in the day-to-day management of hospitalized patients and participate in weekly outpatient clinics under the direct supervision of staff members. The pathophysiologic basis for diagnostic and management aspects is presented at daily rounds and at weekly in-depth conferences with the students. A separate elective of 12 weeks is also available to interested students who may desire a longer period of training and/or wish to pursue a clinical or laboratory research project.

Affiliated Hospital Electives. Electives in Endocrinology are available at York (Pa.) Hospital and the Baltimore Veterans Administration Hospital.

POSTGRADUATE FELLOWSHIPS

Full-time positions are available to selected candidates who have usually completed two or more years of house officer training. Fellows participate in ongoing research projects and independent investigations are encouraged. These trainees also participate in all clinical activities within the division. A financial stipend is provided. Applications may be made through the division head.

Division of Gastroenterology

Professor and Head

Frank Iber, MD

Professor

Vernon M. Smith, MD

Associate Professors

Samuel Morrison, MD
Howard F. Raskin, MD
Robert M. Russell, MD
Richard E. Sampliner, MD

Clinical Associate Professor

Richard A. Baum, MD

Assistant Professors

Renan J. Dureza, MD
Sudhir K. Dutta, MB, BS

William C. Ebeling, III, MD

Barry H. Epstein, MD

Frank Hamilton, MD

Robert Hartley, MD

Gerald A. Hofkin, MD

Stanley Morrison, MD

David B. Posner, MD

Elizabeth L. Rogers, MD

Clinical Assistant Professor

Richard B. Williams, MD

Instructors

Mohammad Inayatullah, MB, BS

Ajaib S. Sidhu, MD

UNDERGRADUATE MEDICAL PROGRAM

First and Second Year

Minimenter in Liver Disease. Twenty-four hours devoted to selected topics and current pathophysiology and treatment concepts in clinical liver disease. Twelve topics such as jaundice, ascites, coma, and portal hypertension are treated in depth.

Clinical Elective — Fourth Year Students

A broad clinical experience in consultations, reading and conferences on G.I. and liver problems. Students evaluate consultations with G.I. fellows and senior staff, plan in diagnosis and management and follow patients through definitive treatment and discharge. A series of specific goals are available for the four-week rotation and at least 30 papers are assigned during this time. Attendance at six hours of conferences and ten hours of G.I. clinical rounds each week and four hours of clinic is a part of the rotation.

Research Experience

Summer research electives in G.I., liver and nutrition are available and many carry a stipend. To obtain stipend, application must be made by the first week in February.

Division of Hematology

Professor and Head

Peter H. Wiernik, MD

Associate Professors

Rouben M. Jiji, MD

Richard D. Leavitt, MD

Assistant Professors

Michael E. Klein, MD

Meyer Heyman, MD

UNDERGRADUATE MEDICAL PROGRAM

Second Year

Members of the division are responsible for the first semester part (hematology) of the sophomore course in clinical pathology. Clinical and laboratory aspects of normal red cell metabolism and blood dyscrasias are discussed by faculty in the Division of Hematology and the Division of Clinical Pathology. (Drs. Klein and Wiernik)

Fourth Year

Clinical Elective. The diagnosis and management of patients with hemolytic and neoplastic disease is studied in coordination with the Baltimore Cancer Research Program and the Johns Hopkins University. There are seven formal lectures per week, many given by invited speakers from major universities and the National Cancer Institute. Great emphasis is placed on the ability of the student to competently read peripheral smears and bone marrows.

POSTGRADUATE FELLOWSHIPS

One- to three-year postgraduate fellowships are offered in either hematology, oncology or the combination of the two subspecialties. Oncology training is in coordination with the Baltimore Cancer Research Program of the National Cancer Institute. A minimum of three years' training and board eligibility in internal medicine are required prerequisites. Further information is available from the division office, upon request.

Division of Infectious Diseases

Professor and Head

Stephen C. Schimpff, MD

Professors

Frank M. Calia, MD

Jay S. Goodman, MD

Merrill J. Snyder, PhD

Associate Professors

Myron M. Levine, MD

Andrew Smith, PhD

Harold C. Standiford, MD

Clinical Associate Professor

Ellis S. Caplan, MD

Research Associate Professor

David R. Nalin, MD

Assistant Professors

Robert E. Black, MD, MPH

Mary L. Clements, MD, MPH

John P. Manzella, MD

John McConville, MD

Margaret B. Rennels, MD

James H. Tenney, MD

John W. Warren, MD

Celeste L. Woodward (Applefeld), MD

Instructors

George L. Drusano, MD

David E. Johnson, PhD

Charles R. Young, BA

Research Associates

Timothy P. Hughes, BS

John C. Rhead, PhD

UNDERGRADUATE MEDICAL PROGRAM

Fourth Year

INFE 541. Training in Infectious Diseases Elective. (University or Baltimore Veterans Administration Hospitals). The diagnosis of infections and proper management of patients with these diseases are taught by exposure of the student to practical, clinical, laboratory and research problems. The student will see consultations under the supervision of a full-time teaching fellow or medical resident. Attending rounds are made at least three times weekly. A weekly clinical infectious disease conference for faculty, house staff and students alternates between the University and the Baltimore VA Medical Center. Additionally, student conferences covering urinary tract infections, pneumonia, meningitis and other common topics in infectious diseases are conducted by the postgraduate fellows twice weekly for all the students taking the elective at either hospital.

Affiliated Hospitals. Elective opportunities in infectious diseases are also available at York (Pa.) Hospital and Mercy Hospital.

POSTGRADUATE FELLOWSHIPS

The postgraduate fellowship is a two-year combined University of Maryland and Baltimore VA Medical Center program. The first year is clinically oriented and is spent at both hospitals consulting on patients with problems related to infectious diseases. Infectious disease experience is also obtained through rotations at the Maryland Institute of Emergency Medical Services Systems, the Baltimore Cancer Research Program, the Center for Vaccine Development and the Clinical Microbiology Laboratory. The fellow will see consults, supervise residents, interns and the medical students and spend much of his time teaching as well as in patient care. The second year of the program is oriented towards research. Special interests in the division include newer antibiotics, nosocomial infections and vaccine development for viral and diarrheal diseases. A stipend of approximately \$16,000 is provided. Application is made through the division head.

Division of Introduction to Medicine (Physical Diagnosis)

Professor and Acting Head

Theodore E. Woodward, MD

Professor

James Allen, MD

UNDERGRADUATE MEDICAL PROGRAM

Second Year

PDIA 520. Introduction to Clinical Medicine. The techniques of elaborating a clinical history and of performing a physical examination are provided to the class as a whole via an integrated lecture series given early in the year by various members of the clinical faculty. Simultaneous practical experience is provided in small tutorial groups in which the student examines hospitalized patients under the close supervision of members of the clinical faculty one afternoon a week throughout the academic year. Students acquire skills in the definition of the normal as well as the abnormal as they occur in the spectrum of human disease. Pathophysiologic correlations provide a basis for the continuing study of clinical medicine.

Division of Nephrology

Associate Professor and Head

John H. Sadler, MD

Paul D. Light, MD

Barbara K. Urbaitus, PhD

Terry L. Wilson, PhD

Associate Professor

Emilio Ramos, MD

Clinical Assistant Professor

Cyrus E. Beekey, Jr., MD

Assistant Professors

John Josselson, MD

UNDERGRADUATE MEDICAL PROGRAM

Fourth Year

Nephrology Elective, University of Maryland Hospital. Students who have completed their required junior electives in medicine, surgery, pediatrics and obstetrics may elect a clinical rotation in nephrology. Although one month electives will be accepted, the student is encouraged to spend two months in order to have time to use the skills developed and to become thoroughly familiar with the approach to patients with kidney disease. Students with special interest in particular aspects of kidney function or kidney disease may be permitted to pursue those after consultation with the division head.

NEPH 541. Nephrology Fellowship Elective, Maryland General Hospital. This elective exposes students to the practice of clinical nephrology and to the management of acute and chronic renal failure.

POSTGRADUATE FELLOWSHIPS

Qualified physicians may apply for full-time fellowships in nephrology. Although one-year fellowships of primarily clinical training are offered, preference will be given to those desiring two years of training.

Division of Pulmonary Diseases

Associate Professor and Head

David G. Simpson, MD

Associate Professors

Victor Hrehorovich, MD

Harry D. Kerr, MD

Edward Rusche, MD

Assistant Professors

Bernard P. Farrell, MB, BCh

Michael Hayes, MD

Thomas E. Hobbins, MD

Thomas J. Kulle, PhD

Allan S. Moodie, MB, ChB

Instructors

Chi-Shiang Chen, MD

Rustum Irani, MB, BS

William E. Randall, Jr., MD

UNDERGRADUATE MEDICAL PROGRAM

First Year

Members of the division take part in the teaching of the physiology course with emphasis on the clinical application to basic respiratory physiology. This includes an introduction to clinical medicine and the sessions in the course on correlative medicine.

Second Year

During the subject systems portion of the second semester, a period of two weeks is devoted to the respiratory system. The teaching of clinical medicine is integrated with epidemiology, pharmacology, microbiology and closely correlated with the teaching of physiology and pathology. This does not attempt to provide a course in respiratory diseases but the most common and more important groups of diseases are included.

Third Year

During the rotation on medicine at the University of Maryland and affiliated hospitals (Baltimore VA Hospital, Maryland General Hospital and Mercy Hospital), junior students have the opportunity to make contact with faculty members and fellows during clinical ward rounds on patients with pulmonary disease. A weekly pulmonary conference is held at each of these hospitals where students have an opportunity to present cases from their wards.

Fourth Year

In the ambulatory care portion of the curriculum, senior students have an opportunity to spend one afternoon during each week in the Western District Chest Clinic. They see patients during the early part of the afternoon, present them to faculty members or fellows and attend a one-hour x-ray-oriented conference at which a wide variety of pulmonary problems is presented.

PULM 541. Pulmonary Diseases Elective. Experience is given in the areas of clinical medicine and applied physiology with emphasis on correlation of clinical, roentgenographic and physical findings.

Division of Rheumatology

Associate Professor and Head

Mary Betty Stevens, MD

Marcia C. Schmidt, MD

Thomas M. Zizic, MD

Assistant Professors

John W. Blotzer, MD

Ronald S. Pototsky, MD

Instructor

Lynn M. Billingsley, MD

UNDERGRADUATE MEDICAL PROGRAM

The Rheumatology Division offers several electives for senior students which, by design, present the spectrum of rheumatic disease and approach to diagnosis and management. Integration of clinical features with the mechanisms of disease processes is accomplished through informal tutorial sessions as well as didactic lectures. The rationale of the various management programs including drug therapies, physical medicine and orthopaedic surgery is emphasized. Experience is gained in performance of diagnostic procedures (e.g., arthrocentesis) and in interpretation of relevant laboratory test systems.

MICROBIOLOGY

Professor and Chairman

Charles L. Wisseman, Jr., MD

Professors

Richard H. Baker, PhD

Gerald A. Cole, PhD

Paul Fiset, MD, PhD

Rossllyn W. I. Kessel, MBBS, PhD

Robert Traub, PhD

Assistant Professors

David L. Camenga, MD

Abdulrahman Farhang-Azad, PhD

Judith L. Lovchik, PhD

James R. Murphy, PhD

William F. Myers, PhD

David J. Silverman, PhD

Jonathan F. Smith, PhD

Associate Professor

Ollie R. Eylar, PhD

Training in microbiology and immunology within the medical school curriculum occurs primarily during the sophomore year when all students are required to take medical microbiology and immunology. Emphasis is placed on medical aspects of microbiology and immunology. In addition, elective courses specifically designed for medical students as well as selected graduate school courses are available to medical students in all years. Individual faculty members are available to provide instruction and guidance throughout the entire medical curriculum.

The department also offers the PhD degree. Although the MS degree may be offered in special instances, priority will be given to PhD aspirants. This department encourages students who wish to enroll in the MD-PhD program.

Medical students may participate, when mutually agreeable, in research programs within the department. These include basic and applied, laboratory and field studies on rickettsial, viral and parasitic diseases, and their vectors. Immunological, pathogenetic, molecular, biochemical, ecological and epidemiological aspects are included to varying degrees.

UNDERGRADUATE MEDICAL PROGRAM

Second Year

MMIC 520. Medical Microbiology and Immunology (8). First semester. Though the precise time distribution will vary throughout the course, there will be an average of five lecture hours and seven hours in laboratory and group conferences per week. This course begins with an introduction to basic principles of immunology and then proceeds to consider the major groups of bacteria, spirochetes, fungi, rickettsiae, viruses and parasites that cause human disease. Emphasis is placed upon an analysis of the properties of microorganisms thought to be important in pathogenesis of infection and interaction with host mechanisms, epidemiology, and control measures. (Staff)

Electives

Students are encouraged to take elective work throughout their training. The following are specifically designed for medical students:

MMIC 541. Clinical Immunology (Drs. Kessel and Fiset)

MMIC 542. Medical Zoology and Parasitology (Drs. Traub, Myers and Farhang-Azad)

MMIC 543. Principles of Ionizing Radiations (Drs. Myers and Eylar)

MMIC 548. Research in Microbiology (Staff)

A number of graduate school courses are also available to qualified students. Interested students should contact the department for details.

NEUROLOGY

Professor and Acting Chairman

Richard F. Mayer, MD

Professor Emeritus

Jerome K. Merlis, MD

Professors

Erland Nelson, MD, PhD

Thomas R. Price, MD

Marshall L. Rennels, PhD

Charles Van Buskirk, MD, PhD

Associate Professors

Stephen R. Max, PhD

Granger G. Sutton, MD

Assistant Professors

Leslie Barnett, MD

David L. Camenga, MD

Maria Gumbinas, MD

Ramesh K. Khurana, MBBS

Carol Lee Koski, MD

Robert S. Mosser, MD

James Reggia, MD

Rodrigo Toro, MD

Arthur M. Wagner, MD

Clinical Assistant Professors

Matthew Atkinson, MD

John W. Eckholdt, MD

Morton D. Kramer, MD

Anatol H. Oleynick, MD

Harry A. Tietelbaum, PhD

Research Assistant Professor

Patricia A. Grady, PhD

Instructors

Barbara Hulfish, MD

James B. Toop, PhD

Clinical Instructors

A. Gary Belaga, MD

Nicholas Capozzoli, MD

A. Allan Genut, MD

William Law, MD

Solomon Robbins, MD

Peter Schilder, MD, PhD

Richard Taylor, MD

Richard Weisman, MD

Ira Wexler, MD, PhD

Visiting Instructor

Katsukuni Fujimoto, MD

Research Associates

Thomas Gregory, PhD

Syed Nassem, PhD

Joseph Young, PhD

Neurology is broadly, but properly, interpreted as the study of the nervous system including central, peripheral and neuromuscular systems. It includes basic and clinical aspects of the human nervous system, both normal and diseased. Accordingly, department members participate in planning and delivering course material in all four years of undergraduate medical education. While it is recognized that only a relatively small number of medical students will choose careers in medical or surgical neurology or in the basic neurosciences, it is believed that all medical graduates must have sufficient understanding of the basic structure and function of the nervous system to perform a satisfactory neurological examination, recognize and treat the many common neurological disorders and know when to refer the patient to a neurological specialist. Of special importance is the ability to distinguish between functional and organic neurological symptoms or signs.

While the organization of the postgraduate program of the department, as well as the interests and the abilities of the full-time faculty, are especially suited to the training of academicians and investigators, the department recognizes its responsibility also to train neurologists who will practice their specialty in this community and state.

The discipline of neurology has maintained its traditional ties with basic science and by its complex but logical nature, has typified the scholarly aspects of medicine. Recent methodological and scientific advances have created a new and therapeutically-oriented specialty which is represented in the philosophy and goals of this department.

UNDERGRADUATE MEDICAL PROGRAM

First and Second Years

NEUR 510. Neurological Sciences I. Lecture demonstrations of clinical cases constitute an integral part of this course. There is emphasis on correlation of anatomy and physiology with clinical material. Neurologic aspects of physical diagnosis are taught in both the first year and second year of medical school with instruction in performance of the normal neurologic examination as well as examination of selected patients with neurologic disorders. (Staff)

NEUR 520. Neurological Sciences II. In conjunction with the Department of Pathology, and with contributions from other clinical and basic science departments, there is a correlative course given in the second year of medical school in which pathology of the nervous system is correlated with clinical disease. (Staff)

Third Year

NEUR 530. Neurological Sciences III. All members of the third year class have a three-week clerkship on the neurology-neurosurgery service at the University of Maryland Hospital or the Baltimore Veterans Administration Hospital. A didactic series of lecture-demonstrations is given by the neurology and neurosurgery faculty and students attend the combined conferences in both disciplines. In addition, students attend rounds; may assist in the performance of some procedures; and, under housestaff and attending staff supervision, are responsible for the care of patients with neurological disorders. (Staff)

Electives

NEUR 541. Clinical Electives. After completion of the third year, students are offered a variety of clinical experiences on the neurological service at: University of Maryland Hospital, Mercy Hospital, Montebello Rehabilitation Hospital, St. Agnes Hospital, Baltimore Veterans Administration Hospital, and York (Pa.) Hospital. The neurologic examination of the patient is emphasized, as well as the study and application of a wide variety of specialized neurologic diagnostic techniques. Each student will become proficient in the taking of a neurologic history, the performance of the neurologic exam, the formulation of a reasonable diagnostic impression or differential diagnosis, a plan of investigation and management for several of the more common neurologic problems.

NEUR 548. Neurological Research Electives. In all four undergraduate years, a limited number of students will have the opportunity to work with individual members of the department in the following areas: 1) cerebrovascular physiology; 2) neuromuscular research; 3) neurophysiology; 4) vascular ultrastructure (SEM and TEM); 5) neurochemistry; 6) neurovirology; and 7) autonomic nervous system. The student will learn the principles and methods of investigating a problem. He/she will be involved with ongoing research and in some instances, especially with the longer electives, publication of results will be possible.

Fellowships

Students who have completed their first, second or third years and have an interest in neurologic sciences may apply for additional training in clinical neurology or in one of the research laboratories of the department. Qualified students may receive remuneration as fellows for the ten-week fellowships taken during vacation periods.

GRADUATE STUDIES

There is a fully approved three-year training program in the specialty of neurology at University of Maryland Hospital. This provides for clinical training as well as rotation through the associated basic science disciplines. In addition, fellowships are available for subspecialty neurology training, such as EEG and EMG. For further information contact the department chairperson.

OBSTETRICS AND GYNECOLOGY

Associate Professor and Acting Chairman
Edmund B. Middleton, MD

Professor Emeritus
Isadore A. Siegel, MD

Professors
Willard M. Allen, MD
Isadore G. Ances, MD
Abram B. Fajer, MD
D. Frank Kaltreider, MD
Umberto VillaSanta, MD

Associate Professors
Ernest I. Cornbrooks, Jr., MD
James P. Durkan, MD
Richard S. Munford, MD
Salvatore Raiti, MB, BS
Fitzpatrick Wilson, MD

Assistant Professors
Eugene D. Albrecht, PhD
Robert M. Barnett, MD
Everett S. Diggs, MD
Laudelina R. Lahom, MD
Erica F. Moszkowski, MD

Leslie L. Mould, MD
Ernesto Rivera-Rivera, MD
Benson C. Schwartz, MD

Clinical Assistant Professors
Mukund S. Didolkar, MBBS
Sylvan Frieman, MD
James E. Toher, MD

Instructors
Dennis Ginsberg, MD
Emerson R. Julian, MD
Ronald L. S. Kho, MD
Louis L. Randall, MD
Joseph R. Tiralla, MD
Susan M. Willard, MD

Clinical Instructors
Chaweng Ongasuwan, MD
Michael J. Sindler, MD
Ghevont W. Wartanian, MD
Barry M. Wolk, MD

Associate
Norman Levin, MD

The Department of Obstetrics and Gynecology emphasizes three areas of concern — education, research and service.

Educationally, the department provides a learning experience that encourages each student, regardless of ultimate career choice, to develop professional attitudes, diagnostic skills and knowledge relevant to the human female and to her sexual reproductive system. This experience enables each student to assume more effective responsibility for the general delivery of health care to the adolescent, adult and aging female and to the newborn.

The student is taught to recognize more accurately those patients who require special gynecologic consultation. He/she gains insight into such health-related social problems as family planning and other aspects of population control, sexual difficulties, sterilization, induced abortion and unwed pregnancies.

The educational material is presented in such a way as to familiarize students with all sources of knowledge relevant to these subject areas so that each may extend knowledge and skills in a direction and depth appropriate to current and ultimate career goals. Attention is also directed to areas in which available knowledge is deficient with the attempt to stimulate the student to take advantage of elective opportunities in basic, clinical and social research.

The service roles focus on the general areas of obstetrical and gynecologic care. Obstetrics deals with a high-risk pregnancy population and provides excellent educational opportunities for both student and resident. Specialty clinics in endocrinology, complicated pregnancy, cancer, pre- and post-operative evaluation, and family planning provide specific, specialized areas of instruction in addition to rendering service to large numbers of patients. Cancer detection and therapy play a major part in the gynecologic program.

The department is heavily committed to the use of audiovisual aids for the enhancement of the educational experience of both medical student and resident. The faculty also contributes to the postgraduate educational programs at University of Maryland Hospital and throughout the state.

UNDERGRADUATE MEDICAL PROGRAM

Third Year

OBST 530. Clinical Clerkship. Students are assigned to obstetrics and gynecology for a period of six weeks. As clinical clerks they participate in the original diagnostic studies, pelvic surgical procedures and post-operative care of hospitalized patients. Instruction in prenatal and gynecologic out-patient care is accomplished in the out-patient department. Seminars and departmental conferences with the attending staff and house officers are employed for teaching the art of correlating observations, diagnosis and therapy. Frequent and close contact with faculty staff is achieved by means of a preceptorial system which assigns a group of two or three students to a member of the faculty for the entire clerkship. As an alternative to the clerkship at the University of Maryland Hospital, a similar instructional program is offered to a limited number of students by the obstetrics and gynecology department at Mercy Hospital, South Baltimore General Hospital and St. Agnes Hospital. (Staff)

Fourth Year Electives

OBST 541. Obstetrics and Gynecology Elective. The student may choose to rotate through a variety of areas within the department or may spend time more intensively in a specific area. (Staff)

Affiliated Hospitals. Electives are available at: Mercy Hospital and South Baltimore General Hospital.



OPHTHALMOLOGY

Professor and Chairman

Richard D. Richards, MD

Professors

Stanley S. Schocket, MD
Shambhu Varma, PhD

Clinical Professor

Lois A. Young, MD

Clinical Associate Professors

Stephen B. Hameroff, MD
Leeds E. Katzen, MD

Assistant Professors

Vinod Lakhanpal, MBBS
Verinder S. Nirankari, MBBS

Clinical Assistant Professors

David A. Braver, MD
John J. Creamer, MD
Gilbert N. Feinberg, MD
Julian R. Goldberg, MD
Thomas C. Jones, MD
Robert L. Kasper, MD
Earl D. Kidwell, MD
Martha B. Leffler, MD
Alfred Meisels, MD
Jay N. Parran, MD

Jerome Ross, MD

Richard N. Susel, MD

Instructor

Barry M. Weiner, OD

Clinical Instructors

Stanley J. Amernick, MD
Joseph Aquilla, MD
Stanley Brull, MD
William F. Bruther, MD
Theodore H. Cryer, MD
Gary L. Ehrlich, MD
John Gambrill, Jr., MD
Barbara A. Gots, MD
Surinder Kaur, MD
Paul A. Kohlhepp, MD
Richard J. Kolker, MD
Alfred Kronthal, MD
Peter E. Liggett, MD
Gerald A. Miller, MD
Basil S. Morgan, MD
Thomas R. O'Rourke, Jr., MD
Allen E. Silver, MD
Brian J. Winter, MD

Research Associate

Paul Tittel, BS

The Department of Ophthalmology participates in the Introduction to Clinical Practice courses given in the first and second years. During the freshman year, emphasis is placed on achieving competence in performing an ophthalmological examination and emergency care for ocular problems. Self-instructional material is used to learn the technique of ophthalmoscopy.

During the sophomore year, the techniques necessary for a complete ophthalmological examination are reviewed. In addition, aspects of clinical ophthalmology are covered in small group discussions, plus assistance by self-instructional material.

Students interested in a more complete experience in ophthalmology may elect a clerkship during the senior year at the University of Maryland Hospital, Mercy Hospital, or Maryland General Hospital. Time is divided between out-patient, ward and operating room. Conferences and grand rounds are included in the program. Additionally, opportunities exist for elective participation by students in the department's active program of ophthalmic biomedical research. Postdoctoral fellowships in ophthalmic biochemistry are offered.

Students and physicians are encouraged to attend Grand Rounds on Tuesdays from 8:30 a.m. to 10:00 a.m., and to refer patients with ocular problems for examination. Discussion of differential diagnosis and possible methods of therapy are included. A lecture on an aspect of ophthalmology follows, from 10:30 a.m. to 12:00 Noon.

GRADUATE PROGRAM

A three-year residency program providing clinical training is offered at University of Maryland Hospital, with a rotation to Mercy Hospital. Appointment is by application to the Department of Ophthalmology, University of Maryland Hospital.

POSTGRADUATE PROGRAM

Special courses for both nonspecialists and ophthalmologists are given at various times throughout the year by the Program of Continuing Medical Education.

PATHOLOGY

Professor and Chairman

Benjamin F. Trump, MD

Professors

Gunter F. Bahr, MD
Frederick Bauer, MD
R. Ben Dawson, MD
Russell S. Fisher, MD
Peter J. Goldblatt, MD
Philip M. Grimley, MD
Oscar A. Iseri, MD
Elizabeth M. McDowell, PhD
Wolfgang J. Mergner, MD, PhD
Gardner Middlebrook, MD
Fathollah F. Mostofi, MD
Peter Rasmussen, MD
Andrew G. Smith, PhD
Ludwig A. Sternberger, MD
William D. Tigertt, MD
Cyril Toker, MD

Adjunct Professor

Marie Valdes-Dapena, MD

Associate Professors

Ronald L. Anthony, PhD
Antti U. Arstila, MD
Frank O. Bastian, MD
John W. Combs, MD, PhD
Raymond T. Jones, PhD
Kook M. Kim, MD
Edward C. Knoblock, MS
Kauno U. Laiho, MD
Jason M. Masters, PhD
Dezso K. Merenyi, MD
Walter F. Oster, MD
Dallas M. Purnell, PhD
Zulema R. Reggiardo, PhD
Andrew J. Saladino, MD
Moon L. Shin, MD
John C. Sutherland, MD
Chik-Kwun Tang, MD
M. Wilson Toll, MD
Robert E. Wenk, MD

Clinical Associate Professors

Yale H. Caplan, PhD
Mary Hall-Craggs, MBBS
Alberto C. Seiguer, MD

Research Associate Professor

Hans E. Kaiser, PhD

Assistant Professors

John E. Adams, MD

Lucinda Barrett, MA
Belur S. Bhagavan, MBBS
Rudiger Breitnecker, MD
Charles Brown, MD
Willie Q. Cartwright, MS
Robert E. Cranley, MD
Clint R. Crooks, PhD
Jyotsna K. Dhar, MD
Ann M. Dixon, MD
David A. Dobrow, MD
Victor A. Fazekas, MS
Richard R. Graham, BS
E. Allen Griggs, MD
Hormez R. Guard, MD
Paul F. Guerin, MD
Gertrude Hansch, PhD
Robert Harr, MS
Barry M. Heatfield, PhD
William J. Hicken, MD
Elizabeth A. Hillman, PhD
David Hinton, PhD
Sue Hudson, PhD
Rouben M. Jiji, MD
Violet Jiji, MD
Myong W. Kahng, PhD
Watson P. Kime, MB, BCH
Walter B. King, Jr., MD
Thomas R. Koch, PhD
Theodore J. Kula, PhD
Robert G. Lancaster, MD
Frances Lau, PhD
Ramiro R. Lindado, MD
Steven E. Linberg, PhD
Virginia Ling, MD
Michael M. Lipsky, PhD
Henry Nipper, PhD
Carlos M. Orbegoso, MD
Matti A. Penttila, MD
John Petrucci, MD
H. Robert Rubin MD
Amalia E. Seiguer, MD
Abulkalam M. Shamsuddin, MD
John P. Sheehan, MD
Edward L. Sheerer, Jr., MD
Warren D. Sheffield, DVM
Chen-Chih J. Sun, MD
David A. Symonds, MD
James E. Taylor, MD
James E. Tenney, MD
Bernard C. Thompson, PhD
Esperanza Tiamson, MD
Marion G. Valerio, DVM
Abu N. F. Zaman, MBBS

Clinical Assistant Professors

Keneth G. Orloff, PhD
David A. Stout, MD

Instructors

Victor Albites, MD
Martha Baer, AB
Anna Baldwin, BS
Seung-Han Chang, MS
Ai-Shuan S. Cherng, MS
Neil T. Constantine, BS
Dolores C. Costello, BS
Craig E. Duncan, MD
Vivian W. Griffey, MS
Denise M. Harmening, BS
Carolyn Lucas, BS
Joseph McMichael, MS
Vinayak B. Pawar, PhD
Charlotte R. Pool
Sandra Taddie, MS
Fernando A. Velandia, MD
Mary Williams, MS
Joanna E. Wilson, BS

Associates

Ronald M. Block, PhD
Benjamin E. Cummings, PhD
Bruce B. Henriksen, PhD
Helene Hess, BS
Gerald J. Kolaja, DVM, PhD
Ginny M. Merryman, MS
Walter Schurch, MD
Robert D. Vigorito, MS

Clinical Associates

Mohammed Hafiz, MD
Samuel Moore, MS

Research Associates

Elaine R. Adelberg, BS
Irene K. Berezsky, BA
Shadia M. El Gerzawi, PhD
Alvara Osornio, MD
Robert Pendergrass
Patricia C. Phelps, AB
James H. Resau, MS
Mamoru Sato, MD
Toshihide Sato, MD
Mary A. Smith, MS
Padmavathy Vanguri, MS

The primary goal of the Department of Pathology is the better understanding of human disease with emphasis on mechanisms of disease and changes occurring at the subcellular level and in molecular terms. The student achieves this goal in three phases: 1) by acquiring the basic principles of pathology and applying those principles to the diagnosis and study of health care delivery as expressed in diagnostic areas such as surgical pathology, clinical pathology, cytology, forensic pathology and autopsy pathology; 2) by establishing a philosophy of critical evaluation and judgment concerning the problems of health and disease in humans; and 3) by developing feelings of personal responsibility and ethics for the practice of medicine.

The department's philosophy is that the study of disease includes both structure and function and is carried out from the level of the patient to that of the molecule.

The student is exposed to anatomical and clinical hospital pathology services with additional training at Baltimore Veterans Administration Hospital and other local hospitals. Research efforts of the department include: cell injury, cancer immunology, kidney structure and function, chemical carcinogenesis, cell immunology, red cell metabolism, chemical test methodology and human tissue culture.

UNDERGRADUATE MEDICAL PROGRAM

Second Year

PATH 501. General and Systemic Pathology. The course is designed to cover the essentials of pathology in such a way as to form a good foundation for the student's continuing medical education and is divided into "general" or pathobiology and systemic pathology. The course starts with the study of the basic principles of pathology as embodied in the areas of cell injury, inflammation, immunopathology, neoplasia, environmental and forensic pathology. This is followed by the study of the diseases of the various organ systems. Interdepartmental seminar-type presentations are given to cover broad areas of interest to various disciplines. Clinical input is given through correlative sessions stressing mechanisms of disease. The course consists of lectures, small group laboratories and seminars, presentations of fresh material in the autopsy room, presentation of museum cases, and clinical pathology laboratories. The laboratory sessions are in smaller groups under the direction of faculty members assigned to each student group. Each student will rotate through the various laboratories (clinical pathology,

combined microscopic and gross, museum case analysis and review of fresh autopsy material). Sessions in the clinical pathology laboratories emphasize the acquisition of skills necessary for clinical laboratory analysis. (Drs. Trump and Hall-Craggs)

ELECTIVES

Supplementing the core program are more than 20 course offerings for freshman, sophomore and senior medical students. These opportunities span a wide range of departmental activities from system-oriented courses such as renal, pulmonary, neurological or cardiovascular pathology to task-oriented instruction such as environmental pathology, carcinogenesis and research seminars. The latter are conducted with the aid of a number of guest speakers who are leading authorities in their fields. Research preceptorships are encouraged.

Other courses are of more general interest such as seminars in clinical pathology or clinical clerkships in Baltimore area hospitals. Medical students also have access to courses in experimental pathology such as histochemistry, tissue culture or pathological biochemistry.

Most of the above mentioned courses, conforming with the 4-1-4-1 arrangement of the freshman and sophomore years, are offered in January and June while others are given during the regular semester as longitudinal electives. For course listing, time and content description consult the pathology section in the appropriate elective catalogs.

Advanced Accelerated Program in Pathology (AAPP). The AAPP admitted the first group of students in the fall of 1975 in an effort to permit early specialization and target-oriented education. The track in pathology begins in the freshman year, makes use of all the resources of the Department of Pathology, and includes three types of experience: a) exposure to the practice of pathology, b) study of one selected field of study, and c) exposure to research of disease. Five students are admitted during their first year. They are required to fulfill all the requirements of the medical school program; however, they are not pledged to seek a career in the field of pathology. The training in the track program should provide the student with the knowledge of a one-year residency program. Time spent in training within the track program can count towards elective or residency time. (Drs. Mergner and Dawson)

GRADUATE PROGRAM

MS or PhD Degree. The graduate program offers training and instruction in modern experimental pathology. Particular fields of interest presented are: instruction in pathological biochemistry, electron microscopy, immunopathology, histochemistry, tissue culture, physiology and the various fields generally considered within clinical pathology.

MD-PhD Combined. Interested students should consult the department chairperson. For details of course offerings and admission requirements, see the pathology section in the Graduate School Catalog.

PEDIATRICS

Professor and Chairman

David J. Lang, MD

Professors Emeriti

J. Edmund Bradley, MD

Samuel S. Glick, MD

Professors

Michael A. Berman, MD

Raymond L. Clemmens, MD

Stanford B. Friedman, MD

Felix P. Heald, MD

W. Ray Hepner, MD

Murray M. Kappelman, MD

George A. Lentz, Jr., MD

Pinar T. Ozand, MD, PhD

Eugenia Rosenberg, MD

Alexander J. Schaffer, MD

Sidney Scherlis, MD

Allen D. Schwartz, MD

Alfred Steinschneider, MD, PhD

J. Tyson Tildon, PhD

Stuart H. Walker, MD

Karl H. Weaver, MD

Adjunct Professor

Marie A. Valdes-Dapena, MD

Clinical Professors

Ruth W. Baldwin, MD
Robert Brodell, MD
Evan Charney, MD

Associate Professors

Sophia Balis, DDS
Edward Davens, MD
Charlotte Ferencz, MD, PhD
Martin K. Gorton, MD
Wilson Grubb, MD
Ronald L. Gutberlet, MD
Shih-Wen Huang, MD
Barbara W. Hudson, MD
Robert C. Irwin, MD
Thomas J. Kenny, PhD
Misbah Khan, MBBS, MPH
Prasanna Nair, MD
William W. Quivers, MD
Salvatore Raiti, MBBS
Richard M. Sarles, MD
William M. Seabold, MD
Ulgan I. Sila, MD
Jean R. Stifler, MD, MPH
Oscar C. Stine, MD, DrPH
Gibson Wells, MD

Clinical Associate Professors

Kurt Glaser, MD
John A. Grant, MD, MPH
J. Laurance Hill, MD
Theodore H. Kaiser, MD
Edward H. Maher, MD
Edward J. Ruley, MD

Research Associate Professor

W. Douglas Reed, PhD

Assistant Professors

Virginia L. Ault, MD
Wulfred Berman, MB ChB
Jeffrey L. Black, MD
Joel I. Brenner, MD
David Bromberg, MD
Paul Borgan, MD, PhD
Kwok-Sing Cheung, PhD
Jerome Fineman, MD
Gary Fleming, MD
Mary L. Furth, MD, MPH
David B. Graham, MD
Maria T. Gumbinas, MD
Lenore W. Howard, MA
Marc S. Jacobson, MD
Alp Karahasan, MD, PhD
Howard Klein, MD
Richard Lavy, MD
Myron M. Levine, MD, DTPH
Judith C. Lovchik, PhD
Ruth E. Luddy, MD

Marvin M. Malcotti, PhD
Stephen R. Max, PhD
Judith V. McLaughlin, MD
Charles R. Medani, MD
Robert E. Miller, MD
James G. Minard, PhD
Nicolette D. Morris, MD
Robert S. Mosser, MD
Bimal K. Pal, MBBS
Sheridan Phillips, PhD
S. Michael Plaut, PhD
Raveedran Pottathil, PhD
Lourdes Ramirez, MD
Margaret Rennels, MD
Robert T. Rinaldi, MD
Lois M. Roeder, ScD
Paul T. Rogers, MD
Robin H. Rosebrough, PhD, MPH
Arturo Santos, MD
Bernice Sigman, MD
Steven L. Weinstein, MD
Margaret M. Wilusz, DO, MPH
Kevin J. Winn, MD
Celeste L. Woodward, MD
H. Ronald Zielke, PhD

Clinical Assistant Professors

Howard Bierenbaum, PhD
Lester Caplan, MD
Regina Cicci, MA
Robert Dawson, MD
Basil G. Delta, MD, MPH
Eric M. Fine, MD, MPH
Mary A. Fox, MD
R. Edward Harpin, Jr., PhD
Alice B. Heisler-Hayes, MD
Frederick Heldrich, MD
Edward W. Hopkins, MD
Thomas Hunt, PhD
Felix L. Kaufman, MD
John Krager, MD, MPH
Richard L. London, MD
John L. Morgan, MD
Paul A. Mullan, MS
Clayton Norton, MD
Boris L. O'Mansky, MD
Arvind K. Pathak, MD
Charles Randol, MD
Charles M. Reilly, MD
Kenneth B. Roberts, MD
Sherman S. Robinson, MD
Judith D. Rubin, MD, MPH
Sidney B. Seidman, MD
J. Willard E. Standiford, MD
Melvin Stern, MD
Phyllis E. Stubbs, MD, MPH
Arnold L. Vance, MD

Benjamin White, MD
Robert E. Yim, MD

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Syed M. Naseem, PhD
Carlotta M. Sumbilla, PhD

William A. Sinton, Jr., MD
George H. Wall, MD
Ralph Weber, MD
Eric White, MD
Theodore F. Wolff, MD
Deborah Young-Hyman, PhD
Phyllis B. Zimmerman, MA

Instructors

Ruth Ashman, MD
Teresita S. Beltran, MD
Martin Berger, MD
Stefanie F. A. Bergey, PhD
Kathleen M. Buckley, MD
Garrett E. Deane, MD
J. Ramsay Farah, MD, MPH
Jacob K. Felix, MD
Peter Ferra, MD
Dwight Fortier, MD
Albert Gordon, MD
Gary S. Gossorn, MD
Kart M. Green, MD
Rowena C. Grice, MSW
Susan Guarnieri, MD, MPH
Alvin W. Hecker, MD
Robert Holthaus, MD
David Josephs, MD
Donald Klein, MD
Richard C. Lang, MD
Allan T. Leffler, III, MD
Norman L. Miller, MD
Radhamma Nair, MBBS
Fulya O. Nuri, MD
John C. O'Donovan, MD
William S. Parker, MD
Letitia Pierce, MD
Alfred B. Rosenstein, MD
Elizabeth M. Ruff, MB ChB

Clinical Instructors

Marbry G. Bauernschub, MD
LeRoy Bernstein, MD
Edwin H. T. Besson, MD
Maureen M. Black, PhD
James A. Brahlek, PhD
Arnold Brenner, MD
William A. Bryant, Jr., MD
Steven Caplan, MD
Rupla Eshai, MBBS
Richard Layton, MD
Harriet L. Meier, MD
Kozo Murakoshi, MD
Edward L. Perl, MD
Marc A. Rawitt, MD
Polly B. Roberts, MD
Oakley Saunders, Jr., MD
Robert E. Scalettar, MD
Howard A. Wiener, MD
Gino Zarbin, MD
Lawrence Zerolnick, MD

Associates

Clewell Howell, MD
Alvin A. Stambler, MD

Research Associates

Susan Schindler, BS
Karen W. Seaton, MS
Carol L. Zielke, PhD

The efforts of the Department of Pediatrics are directed towards providing the best possible services for children while deriving an educational program to meet the needs of individual students, physicians and other health care workers. By preparing physicians and other health care professionals to provide quality, comprehensive care for infants, children and adolescents, the department can best satisfy the vital need for child health services in the community. Included among the providers of health care are not only pediatric generalists, but also basic scientists, health educators, subspecialists, medical center academicians, community health planners and students of all of these disciplines. The Department of Pediatrics seeks to play a dynamic role in the development of these health professionals throughout all levels of their education — undergraduate, graduate and postgraduate.

A clinical clerkship experience is offered with in-patients, full-term infants and ambulatory patients. A wide variety of electives is also available which provide opportunities to explore aspects of preclinical and clinical pediatric research, additional individualized in-patient and ambulatory clinical clerkships, specific preceptorships, subspecialty experiences and community pediatrics.

UNDERGRADUATE MEDICAL PROGRAM

First Year

PEDI 510. Introduction to Pediatrics. Presentations are made characterizing aspects of growth and development. The course also includes material on the approach to children in various age groups as well as demonstrations of physical examinations of infants, children and adolescents. These presentations and demonstrations are followed by small group discussions. (Dr. Nair)

Second Year

PEDI 520. Pediatric Physical Diagnosis. Individualized experience is offered in the taking of a pediatric medical history and the performance of physical examinations under the direct supervision of a preceptor. (Dr. Mosser)

Third Year

PEDI 530. Clerkship. Students are assigned as clinical clerks for a period of six weeks at either the University of Maryland Hospital, Mercy Hospital, Union Memorial Hospital, Sinai Hospital or South Baltimore General Hospital. In each of these facilities there is clinical experience on pediatrics (including nurseries) as well as on ambulatory services. Regularly scheduled conferences include pediatric subspecialty areas and are supplemented with chart conferences, case discussions, evaluations of neonatal mortality and journal reviews. Small group tutorials cover concepts of pathophysiology and the therapeutic management of pediatric patients. The total impact of the illness on the child and family is emphasized and the student is encouraged to become familiar with all aspects of pediatric practice. (Dr. C. Woodward)

Fourth Year

PEDI 540. Pediatric Electives. The variety of elective experiences include student internships in a nursery setting, on wards and within ambulatory care centers. Laboratory research studies may be pursued as well as experiences in specific pediatric subspecialties. Please refer to the medical school electives catalog. (Dr. Sigman)

Minimester Electives

The department offers a wide range of experiences including some in preclinical and clinical research. For a complete listing, please refer to the medical school minimester catalog.

PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

Professor and Chairman

Edson X. Albuquerque, MD, PhD

Professor Emeritus

John C. Krantz, Jr., PhD

Professors

Joseph W. Byron, PhD

Mohyee E. Eldefrawi, PhD

Frederick C. Kauffman, PhD

Adjunct Professors

John W. Daly, PhD

Donald R. Jasinski, MD

Bernard Witkop, PhD, ScD

Research Professor

Amira T. Eldefrawi, PhD

Visiting Research Professor

Roque Tamburini, Jr., PhD

Associate Professors

Alan F. Boyne, PhD

Neville Brookes, PhD

Jordan E. Warnick, PhD

Daniel Weinreich, PhD

Research Associate Professor

Angela Brodie, PhD

Visiting Research Associate Professor

Laerte Oliveira, MD, PhD

Alice Tamburini, PhD

Assistant Professor

David Burt, PhD

Research Assistant Professors

Sharad S. Deshpande, PhD

Mohammed A. Maleque, DVM,
PhD

Research Associates

John Matthews, PhD

Robert W. Snow, PhD

Charles Spivak, PhD

The department's objectives are to teach undergraduate medical students those principles underlying the distribution, metabolism, mechanism of action and toxicity of therapeutic agents or substances. At the graduate level, three areas of studies are incorporated: 1) training in the various aspects of pharmacology; 2) increasing effectiveness of drugs used in treatment of human diseases; and 3) researching to better understand drug action.

The Graduate School Catalog lists a number of graduate courses and electives offered to medical students. Arrangements for combined MD-PhD training are made on an individual basis.

UNDERGRADUATE MEDICAL PROGRAM

Second Year

MPET 520. Medical Pharmacology. The pharmacological basic for therapeutics is presented with an emphasis on the mechanism of drug action. (Dr. Albuquerque and faculty)

Minimester Electives

The department offers a variety of courses during the minimester portion of the curriculum. Consult the electives catalog for further details.

PHYSIOLOGY

Professor and Chairman

Mordecai P. Blaustein, MD

Gabriel G. Pinter, MD

Daniel S. Ruchkin, DEng

Professor Emeritus

Dietrich C. Smith, PhD

Assistant Professors

Charles Abzug, PhD

Eugene D. Albrecht, PhD

Lyle W. Horn, PhD

Bruce K. Krueger, PhD

W. Jonathan Lederer, MD, PhD

Daniel A. Nachshen, PhD

Herbert S. Ormsbee, III, PhD

Michael Selmanoff, PhD

Teresa Tiffert, MD

Phyllis M. Wise, PhD

Professors

Charles A. Barraclough, PhD

Cornelia P. Channing, PhD

Abram B. Fajer, MD

Edmund M. Glaser, DEng

Lawrence Goldman, PhD

Sheldon E. Greisman, MD

The Department of Physiology provides lecture, laboratory and seminar courses in the principles of mammalian physiology to students of medicine as well as advanced courses in special areas of physiology to graduate students, fellows and interested medical students.

UNDERGRADUATE MEDICAL PROGRAM

First Year

MPHY 501. Principles of Physiology and Biophysics. Lectures, laboratory and conferences during the spring semester. A course in the principles of human physiology and biophysics covering cellular, cardiovascular, renal, respiratory, gastrointestinal and endocrine physiology. Conference periods are used for clinical correlations and small group discussions. Under some circumstances, a limited number of students may elect an alternative program of laboratory work and/or library reading with written reports and conferences. (Dr. Blaustein)

MANA 513. Neurological Sciences. *See Anatomy.*

Other Opportunities. A variety of minimester courses and advanced seminars or research in special areas of physiology are open to interested students during the elective period or other free time. Combined MD-PhD programs, requiring additional course work and original research, are offered for highly qualified medical students.

Fourth Year

MPHY 542. Seminars in Physiology Elective. Advanced graduate seminars in selected fields of physiology (e.g., cardiovascular, renal, endocrine and neural) are offered, usually two each semester.

MPHY 548. Research in Physiology Elective. In selected fields.

PRIMARY CARE PROGRAM

At the University of Maryland, the concept of the primary care physician is that of an individual who is: 1) skilled in multiple facets of health/illness care, both acute and chronic; 2) an educator of peers, pupils and public; 3) interested in the impact of health care delivery and able to effectively evaluate his or her own efforts as well as the efforts of others in this endeavor; 4) able to perform effectively in management decision-making and planning; and 5) an active participant in the affairs of the community.

It is the goal of the Primary Care Program to prepare such a physician, beginning with primary care elective experiences during the senior year and continuing with an extensive graduate medical education program.

The Primary Care Program became an independent division of the School of Medicine early in 1976. This expanded program has responsibility and direct authority for planning, implementing and monitoring new primary health care delivery settings. It is an integral part of the overall campus thrust in primary health care.

Essential to the education and training experience in all of the primary care graduate programs is the focus on a true interprofessional relationship. Residents have the unique experience of being associated with a team of health care professional educators, practitioners and research workers throughout the program. This faculty includes primary care internists and pediatricians, primary care nurse practitioners, clinical pharmacists, psychiatrists, nurse educators, psychologists, and social workers.

UNDERGRADUATE MEDICAL PROGRAM

Selected ambulatory primary care elective experiences are offered as part of the senior year ambulatory rotations in internal medicine and pediatrics. For further information, consult the Medicine and Pediatrics sections of the electives catalog. These primary care elective experiences occur both on campus and within the Area Health Education Center (AHEC) program off campus (see Resources section of this catalog).

GRADUATE PROGRAM

Internal Medicine. A graduate medical education program in Primary Care Internal Medicine was initiated in July 1977. The goal of the residency program is the education and training of general internists who can be evaluated against the most stringent standards of quality in terms of their function as complete physicians. Our intent is to prepare these physicians for a new and expanded health care delivery role, and as innovators in the development of improved health care services. To meet this goal, a wide-ranging three year program has been implemented which allows for sufficient curriculum flexibility to meet individual needs.

The Primary Care Residency Program meets the requirements for certification by the American Board of Internal Medicine, as well as providing a broad medical background and experiences in management, planning, teaching, and evaluation of health care.

Pediatric Primary Care. In July 1978, a graduate medical education program in Pediatric Primary Care was begun. The program has a two-fold thrust — the education of pediatric residents in all areas that affect child life and health combined with personal growth and the pursuit of wisdom, judgment and values. The curriculum is planned to reflect the child's needs within the context of family, school, neighborhood and community. Emphasis is placed on the understanding, humanity, and compassion of the physician in practice as well as the science and technology of medicine.

Specialty clinics within the hospital and other resources are utilized on an elective/required basis, dependent upon the resident's interests and needs. Combined experiences offer the resident longitudinal and comprehensive ambulatory and inpatient care, with an emphasis on the preventive, psychosocial and behavioral aspects of service. A continuing activity is the evaluation of affective and cognitive aspects of the program, the residents and their practice.

The program meets the requirements for certification by the American Board of Pediatrics.

PSYCHIATRY

Professor and Chairman

Russell R. Monroe, MD

Professor Emeritus

Ephraim T. Lisansky, MD

Professors

George U. Balis, MD
Eugene B. Brody, MD
William T. Carpenter, Jr., MD
Stanford Friedman, MD
Robert G. Grenell, PhD
Herbert S. Gross, MD
Virginia Huffer, MD
John R. Lion, MD
James J. Lynch, PhD
Joseph Stephens, MD
Walter Weintraub, MD
Leon Wurmser, MD

Clinical Professors

Leo Bartemeier, MD
Jay D. Haley, MA
Stanley R. Platman, MD
Jonas R. Rappeport, MD
Charles Savage, MD
Nathan Schnaper, MD

Research Professors

David Nurco, DSW
Aron W. Siegelman, PhD

Associate Professors

Jose Arana, MD
Leona Bachrach, PhD
Raymond L. Clemmens, MD
Lawrence Donner, PhD
George E. Gallahorn, MD
Gerard Hunt, PhD
David R. Leaverton, MD
Ellen McDaniel, MD
Taghi M. Modarressi, MD
Thurman Mott, Jr., MD
S. Michael Plaut, PhD
Constantine J. Sakles, MD
Richard M. Sarles, MD
Joan M. Scratton, MSW
Carol A. Tamminga, MD
Isadore Tuerk, MD
Peter Warschawski, PhD
W. Douglas Weir, MD

Adjunct Associate Professor

Clarence G. Schulz, MD

Clinical Associate Professors

Harris Chaiklin, PhD
Henry P. David, PhD

Robert W. Gibson, MD
Kurt R. Glaser, MD
Ghislaine D. Godenne, MD
Stephen E. Goldston, EdD
Sheila Hafter Gray, MD
Henry T. Harbin, MD
William Holden, MD
John B. Imboden, MD
Alp Karahasanoglu, MD
Werner A. Kohlmeyer, MD
Ruth G. Newman, MD
Gary Nyman, MD
Manoel Penna, MD
Bernard Shochet, MD
Jerome Styrt, MD

Research Associate Professors

John J. Bartko, PhD
Milton E. Strauss, PhD

Assistant Professors

Mary J. Albright, PhD
Norman M. Bacher, MD
David J. Barcik, PhD
Bohumil Beran, MD
Norman H. Bradford, PhD
David I. Bromberg, MD
Barbara Cephas, MSW
George Cohen, MS
Robert C. Cumming, MD
Emanuel G. DeFraitess, MD
Frances J. Fitch, MS
William W. Fitzpatrick, MD
Lois Flaherty, MD
Daniel J. Freedenburg, Jr., MD
Kate L. Genut, MSW
Bernard S. Gordon, MD
Charles Goshen, MD
David B. Graham, MD
Cloe M. Haley
Judith F. Haran, MSW
Brian W. Hastings, MD
Douglas Heinrichs, MD
Alice B. Heisler-Hayes, MD
John B. Herts, MD
Norma Jones, MSW
Katherine Kemp, MD
Thomas J. Kenny, PhD
Frederick Knowles, MD
Nancy Kohn-Rabin, PhD
Morris L. Lasson, PhD
Alfred A. Lucco, PhD
Denis J. Madden, PhD
Elena I. Manzanera, MS
Gerald G. May, MD

Martha McLaney, MSW
 Joseph D. Nospitz, MD
 Harry A. Oleynick, MD
 Ruth Oppenheimer, BA
 Kay Ota, PhD
 David A. Paskewitz, PhD
 Jay Phillips, MD
 Sheridan A. Phillips, PhD
 Leonard Press, MSSA
 Ann Redmond, MD
 Bruce Regan, MD
 Alix Rey, MD
 Joan Roberts, PhD
 Kent Robinson, MD
 Lisa Robinson, PhD
 Stanley L. Rodbell, MSW
 Eduardo Romero, MD
 Barry F. Rudnick, MD
 Andrew B. Rudo, MD
 Richard H. Schreder, MSW
 Howard J. Shear, PhD
 Basra Sila, MD
 Kenneth Solomon, MD
 Doris S. Thornton, MD
 Judith Tormey, PhD
 Lutz Von Muehlen, MD
 Kathryn D. Wallis, MS
 Stanley Weinstein, MSW
 Charles L. Whitfield, MD
 Susan F. Woolsey, MD

Clinical Assistant Professors

Richard H. Anderson, MD
 Ronald M. Barry, MD
 Michael J. Bisco, MD
 Jeffrey Black, MD
 Jonathan D. Book, MD
 George P. Brown, MD
 Ronald E. Cann, MD
 Francis L. Carney, PhD
 Rakesh Chandra, MD
 Thomas Cimonetti, MD
 Irvin H. Cohen, MD
 Sidney Cohen, MD
 Peter J. Coleman, MD
 Maxie T. Collier, MD
 John G. Cowl, MD
 Clifford Culp, MD
 Stephen S. Dashef, MD
 Nathan Davis, MD
 William T. Dixon, MD
 Emilio J. Dominquez, MD
 Peregrino Ferro, MD
 Kurt R. Fiedler, MD
 Sarah L. Friedman, PhD
 Robert D. Frieman, MD
 Allan S. Gold, MD

Stuart Gold, MD
 Roger Harris, MD
 Rochelle Herman, MD
 Leonard J. Hertzberg, MD
 William L. Holder, MD
 Barbara Hulfish, MD
 Lorraine L. Hunt, PhD
 Stephen F. Jencks, MD
 Frank P. Johnson, MDiv
 Daniel F. Johnston, MD
 Alan Jonas, MD
 Theodore Kaiser, MD
 Gary A. Klein, MS
 Lynn Kniffin, MSW
 Robert A. Konkol, MD
 Thomas F. Krajewski, MD
 Dennis J. Kutzer, MD
 Clare M. Lebling, MSW
 Harvey A. Lewis, MD
 S. Eugene Long, MD
 Rafael Lopez, MD
 Thomas Lynch, DPM
 William W. Magruder, MD
 Matthew McDonald, PhD
 Evelyn McElroy, PhD
 Paul A. Menitoff, MD
 Ubaldo Morales-Ramos, MD
 James E. Olsson, PhD
 Bhupendrakamer M. Patel, MD
 Albert M. Powell, Jr., MD
 Julian Reed, MD
 Anna Rosenberg, PhD
 Jacob Schonfield, PhD
 Lloyd Schwartz, PhD
 Avrom Carl Segal, MD
 Garry A. Seligman, MD
 Solomon Shapiro, PhD
 Michael Sherlock, MD
 Stuart B. Silver, MD
 David Student, MD
 Ronald J. Taylor, MD
 Ulku Ulgar, MD
 John C. Urbaitis, MD
 Philip Walls, MD
 Marcia Waterbury, MD
 Gerald E. Weinstein, MD
 Maxwell N. Weisman, MD
 William C. Wimmer, MD

Research Assistant Professor

Robert Schwartz, PhD

Instructors

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 John H. Carrill, MD
 Huell C. Connor, Jr., MD
 Franklin Duffy, MD

Wilfried R. Freinek, MD
John Hamilton, MD
Gail Hiller, BSN
Ralph Gerard Kelly, MTh
Stephen Levy, MA
Gail L. Lewis, MSN
Nancy A. Madden, PhD
Patricia Maters, SRN
Eva B. McCullars, MD
Reed A. Morrison, PhD
James J. O'Donnell
Jeffrey S. Rubin, BA
Patti Seman, MSW
Stephen D. Starr, MS
Stuart Tiegel, MSW
Kersley Vaults, MS
Bradley Zebal, MSW

Clinical Instructors

Mahmoud F. Abbas, MD
Richard C. Arbogast, MD
William H. Arnold, MD
Patricia N. Carver, PhD
Sherrill C. Cheeks, MD
Pedro Coto, MD
Curtis L. Decker, JD
Philip Dvoskin, MD
Robert A. Lessey, MD
Leon A. Levin, MD
Sylvia Lisansky, MSW
Andrew D. Logue, MD
Paul McClelland, MD
Daniel T. Merlis, MSW
Marjorie Okum, PhD

Boylston Smith, MD
Irvin I. Steinbach, MA
Jane Terry, MD
Douglas B. Woodruff, MD

Associates

Duncan McCullough, AB
Ajaib D. Sidhu, MD

Research Associates

Clinton Brown, PhD
Dorthea Brown
Howard Burton, PhD
Carol A. Carpenter, BA
Cecilia Coughlin, LPN
Elman Einberg, BS
Margaret Evans, BA
Marcia A. Geser, MS
John David Herron, MSW
Nancy Horrom, AB
Kenneth Keller, PhD
Albert Kurland, MD
Bryan MacKay, BA
Richard M. Mangano, BS
Susan L. Parks, BA
Ellen Ressin, MA
Robert L. Rodgers, BS
Gary B. Saylor, MS
Patricia Stimely
Madelyn Stolk, BA
Ann Summerfelt, BA
Althea Wagman, PhD
Edwina Wilkinson

The goal of undergraduate psychiatric education is an understanding of and an appreciation for the application of behavioral and psychiatric principles in patient care and health maintenance through an exposure to a progressive sequence of intellectual stimulations, clinical experiences, and appropriate contexts of professional socialization. More specifically, the curriculum aims to assist the students to : 1) acquire a foundation of knowledge regarding the psychological, sociological and humanistic aspects of the practice of medicine based on the study of the behavioral and social sciences and clinical psychiatry; 2) master basic interpersonal and psychiatric skills relevant to the management of patient with medical and/or emotional illness; 3) emulate attitudes and values with enhance the professional roles and practices of a physician *vis-a-vis* his or her patients and the community.

The curriculum is divided into a Core Program which consists of required courses offered during the first three years of medical education and an Electives Program which provides a variety of courses (clinical, didactic and research) for the student who is interested in furthering his knowledge and experience in some aspect of the theory and practice of psychiatry and its related fields. These elective courses are offered during the January and June minimesters of the preclinical years and in the senior year. The four-year Combined Accelerated Program in Psychiatry (CAPP) is offered as an advanced elective track to selected students with a special interest in the behavioral sciences.

CORE PROGRAM

First Year

PSYH 510. Behavioral and Social Sciences. (90 hours). This interdisciplinary course provides a context for the integration of diverse behavioral science contributions which are relevant to the understanding of human behavior. It is presented jointly by the Department of Psychiatry, the Department of Epidemiology and Preventive Medicine, and the Department of Pediatrics, and is coordinated by an interdepartmental committee. Its emphasis is on the emergence of a broader concept of life sciences that constitute medicine — one that views the human organism holistically as a dynamic biological system whose inherent aspects of structure, organization, ontogeny and functioning are determined or influenced by developmental, intrapsychic, interpersonal and sociocultural factors. The course runs through both semesters, three hours per week. (Dr. Balis)

First Semester: Dimensions of Behavior. This section provides basic introductory concepts in the field of behavioral and social sciences, and is primarily designed to meet the needs of those students whose premedical curriculum did not allow sufficient exposure to these sciences. The central theme is man as an individual viewed from a developmental, intrapersonal, interpersonal and humanistic viewpoint, and as he emerges through the vicissitudes of the family life cycle. These basic dimensions of behavior are presented in the following course units: 1) Human Growth and Development (Dr. Sarles); 2) Personality and Behavior (Dr. Donner); and 3) Human Interaction (Dr. G. Hunt). These are lecture demonstrations coupled with small group discussions.

Second Semester: Behavioral and Social Sciences and the Practice of Medicine. This section views man in his transactions with the environment and in the context of larger systems, including social, governmental and institutional. Its major focus is on the psychological, interpersonal, and sociocultural aspects of illness and health care. Course units include: 1) Psychosomatic Aspects of Illness (Dr. Lynch); 2) Social, Cultural and Organizational Aspects of Health Care (Dr. Sexton); and 3) Physician-Patient Interaction (Dr. Weir). The pedagogic approach is based on lecture-demonstrations and patient interviews as well as small group discussions.

Second Year

The goal of sophomore psychiatry is to provide students with a foundation of clinical knowledge in the area of psychopathology and psychiatric diagnosis as a preparation for their junior clerkship in psychiatry. This sequence is organized around two courses as follows:

Practicum in Psychiatric Evaluation. This course is offered as part of the Year II Introduction to Clinical Practice, and consists of six two-hour sessions per student rotation. About 30 students rotate in this course every six weeks. The objectives of the course include psychiatric interviewing techniques and psychiatric history taking, mental status examination, differential diagnosis and development of psychodynamic understanding. Its format consists of small group sessions involving live patient interviews. (Drs. Balis, Redmond, Weir, Shocket, Phillips and Madden)

PSYCH 520. Psychopathology. (60 hours). In the first semester the focus is on the descriptive aspects of psychopathology, providing clinical knowledge in the area of psychiatric nosology including symptom identification and their clustering into syndromes, clinical description of diagnostic entities, and psychiatric nomenclature. The second semester is divided into three sequences: 1) Psychopathology of Child and Adolescence (Dr. Sarles); 2) Biological Mechanisms of Psychopathology and Relevant Therapies (Dr. Balis); and 3) Psychosocial Mechanisms of Psychopathology and Relevant Therapies (Dr. McDaniel). The second semester emphasizes the multilevel contributions to the pathogenesis of disordered behavior, focusing on etiology, pathogenesis, epidemiology, and treatment of psychiatric disorders. The pedagogic technique during the first semester consists of a brief, 20-minute lecture on the subject followed or preceded by a clinical demonstration. Psychopathology is demonstrated by films, videotapes, and interviews with live patients. The instructional format of the second semester consists of lecture-demonstrations. (Drs. Monroe and Balis)

Clinical Years

PSYCH 530. Psychiatric Clinical Clerkship. (six weeks). The clerkship experience involves both in-patient and out-patient assignments. Clerkship consists of full-time assignment to one of the following hospital facilities: 1) Institute of Psychiatry and Human Behavior; 2) Sheppard and Enoch Pratt Hospital; 3) Sinai Hospital; 4) U.S. Public Health Service Hospital; 5) Walter P. Carter Community Mental Health Center; 6) Maryland General Hospital; and 7) Spring Grove Hospital Center). More than 60% of the juniors are trained intramurally at the Institute of Psychiatry and Human Behavior. All students are required to attend several didactic sessions on Tuesday and Thursday mornings, including: 1) Review of Clinical Psychiatry (Dr. Holden), 2) Humanistic Medicine (Dr. L. Hunt), 3) Alcoholism and Drug Abuse (Dr. Whitfield), 4) Patient Management (Dr. Balis), 5) Psychological Testing (Dr. Donner), and 6) Liaison Seminar (Dr. McClelland). In addition, some students are assigned to part-time experience in child psychiatry, one-half day per week. Students on a child psychiatry option have proportionally less time in adult services. The following clinical facilities are used for child psychiatry electives: Child Psychiatry Clinic and School Day Care. (Dr. McDaniel)

Institute of Psychiatry and Human Behavior. The clerkship involves a concurrent assignment to the adult in-patient division, ambulatory care division, and liaison psychiatry division. The in-patient experience is structured around the assumption of responsibility for the work-up and treatment of a newly admitted patient under the supervision of a ward administrator and a resident preceptor. The student participates in staff meetings, milieu therapy activities, psychodrama sessions and presents his or her patient in a clinical case conference. The out-patient experience involves intensively supervised work with patients in the brief therapy clinic and open clinic supplemented by a students' clinical case conference. Concurrent liaison division activities include supervised work with patients in the general hospital. (Dr. McDaniel)

Sheppard and Enoch Pratt Hospital. Three to four students per rotation. It focuses primarily on supervised work with hospitalized patients and includes participation in milieu therapy, group therapy and ongoing staff conferences. Students spend a portion of their time on a geriatric ward doing supervised evaluation. (Dr. Richardson)

Sinai Hospital. Two students per rotation. It involves a concurrent exposure to hospitalized psychiatric patients, consultative psychiatry, crisis clinic and out-patient clinic. Students also attend ongoing seminars and conferences, and spend a portion of their time at a geriatric facility doing supervised evaluations. (Dr. Urbaitus)

U.S. Public Health Service Hospital. Two students per rotation. It combines in-patient and out-patient experience, and consultative psychiatry under close supervision. Students also attend ongoing conferences. Out-patient experience is provided at the North Baltimore Community Mental Health Center. (Dr. Culp)

Walter P. Carter Community Mental Health Center. Four students per rotation. It consists of assignments to emergency room, in-patient service and satellite clinics. University faculty and residents provide close supervision for the students. (Dr. Cumming)

Maryland General Hospital. Two students per rotation. It involves in-patient experience as well as out-patient assignment at the brief therapy clinic of the IPHB. (Dr. Freedenburg)

Spring Grove Hospital Center. Two to four students per rotation. It consists of both in-patient and out-patient assignments. Students also attend ongoing seminars conferences under the leadership of University faculty who supervise at Spring Grove. (Dr. Ferro)

Interdepartmental Collaborative Teaching. Behavioral science teaching in certain specialized areas is contributed by several departments, including the Department of Psychiatry, within the interdisciplinary sequence Introduction to Clinical Practice (ICP). In the clinical years, the Liaison Division of the Department of Psychiatry conducts collaborative teaching in surgery, medicine, and ambulatory care (Dr. McClelland). The Division of Child and Adolescent Psychiatry collaborates closely in teaching, research and patient care with the Department of Pediatrics (Dr. Sarles). Core courses in Human Sexuality and Ethics are offered in the interdepartmental ICP sequence during the freshman and sophomore years.

ELECTIVES PROGRAM

The Department of Psychiatry offers elective courses in all four years of the medical curriculum. Elective courses scheduled in the Year I and Year II minimesters (January and June) span a variety of topics in behavioral sciences, including: human development, psychophysiology, medical sociology and anthropology, psychopharmacology, humanistic medicine, biological substrates of behavior, psychoanalytic theory, and psychiatric epidemiology. Elective courses offered during the clinical years include: brief psychotherapy, psychiatry for the medical practitioner, community psychiatry, emergency psychiatry, out-patient child psychiatry, pediatric psychiatric consultation, preventive and community psychiatry courses in various research areas, as well as individual clinical preceptorships. (Dr. Weir, Electives Coordinator)

Combined Accelerated Program in Psychiatry (CAPP). The CAPP was initiated in 1970 by the Department of Psychiatry as a major effort to explore new approaches to medical education. This behavioral science-psychiatry track allows selected students to enroll concurrently in a basic psychiatric-specialty training, beginning in the freshman year and continuing through the four years of medical school. In addition to participating in the psychiatry program, students are required to fulfill all of the requirements of a standard four-year medical curriculum. In admitting students to the program, there is no requirement for any pledge of a career interest in psychiatry. Students are selected from among applicants with an interest in the social and behavioral aspects of medicine. Twelve students are admitted to the program per year. Currently, over 100 students have entered the program. The track provides, from the first month of the freshman year, an unfolding progression of combined didactic and clinical experiences in the behavioral sciences and in clinical psychiatry. The completion of this four year program enables the student to graduate from medical school with a foundation of knowledge and skills that is envisioned to be at least equivalent to that provided by one year of traditional residency training in psychiatry. Students in the program graduate from the medical school six months earlier than the rest of their class by being credited six months elective time in psychiatry. During the remaining six months, those interested in careers other than psychiatry are encouraged to take a six-month internship in psychiatry specifically designed to meet their practice needs in the field of their choice. On the other hand, those committed to a career in psychiatry are encouraged to take a six-month internship in internal medicine. (Dr. Weintraub)

Fellowships. This eight-week program, supported by the National Institute of Mental Health and medical school traineeships, is offered each summer to a dozen students. Students are assigned to the various clinical facilities of the Institute of Psychiatry and Human Behavior and participate in an intensive program which includes closely supervised clinical work, conferences and seminars, and involvement in individual clinical and research projects. (Dr. Balis, Fellowships Coordinator)

RADIATION THERAPY

Professor and Chairman

Ralph M. Scott, MD

Professors

Thongbliew Prempre, MD, PhD

James E. Robinson, PhD

Stuart L. Taylor, PhD

Associate Professors

George Harrison, PhD

Robert G. Slawson, MD

Adjunct Associate Professors

Harry Berman, MD

Joseph F. Contrera, PhD

Research Associate Professors

Augustine Yin-Pan Cheung, PhD

George M. Samaras, PhD

Assistant Professors

Ill-Soo Kim, Mf

Vinita Patanaphan, MD

Wilfred Sewchand, ScD

Thavinsakdi Viravathana, MD

Clinical Assistant Professor

Marcos Tepper, MD

Clinical Instructor

James McCullough, MS

Research Associates

Elizabeth Kubiczek, MSc

Duncan McCullough, BSEE

Radiation Therapy including Radiological Physics, Radiobiology, and Radiation Oncology became a separate department at the University of Maryland in 1978. Previously, it had existed as a division of radiology, but increasing knowledge in all the areas of radiological science lead to its recognition as a separate, integrated specialty.

The department offers the medical student a broad exposure to the principles of radiation oncology through lectures, conferences and attendance at new patient and follow-up clinics. Emphasis is placed on the indications for and use of ionizing radiation in the management of patients with cancer.

UNDERGRADUATE MEDICAL PROGRAM

Third Year

During a three-week rotation through Radiology, Radiation Therapy and Nuclear Medicine, the students attend Radiation Therapy departmental teaching rounds and clinics. They also attend a series of lectures designed especially to familiarize them with the principles of the specialty. (Dr. Scott and staff)

Fourth Year

Elective in Radiation Therapy. This elective allows the students interested in pursuing radiation therapy as a career an opportunity to participate as a member of the radiation oncology team. They will become familiarized with the evaluation, management and follow-up of patients who have cancer including treatment planning, dosimetry and the use of interstitial and intracavitary sources of radionuclides. (Dr. Scott and staff)

GRADUATE PROGRAM

An approved three-year residency program in therapeutic radiology is offered at University of Maryland Hospital. Teaching is carried out through didactic lectures, clinics and numerous teaching conferences with emphasis on patient care under the supervision of a full-time staff. Elective time is spent in related oncological specialties to promote the multidisciplinary concept of management of patients with cancer.

REHABILITATION MEDICINE

Professor and Chairman

Paul F. Richardson, MD

Clinical Professor

B. Stanley Cohen, MD

Associate Professors

John E. Gessner, MD

Lewis J. Goldfine, MD

George A. Lentz, Jr., MD

Kurt Raab, MD

Leon Reinstein, MD

Jacob Schonfield, PhD

Adjunct Associate Professor

Gerald Felsenthal, MD

Assistant Professors

Christine B. Feliciano, MD

Norman B. Rosen, MD

Henry Spindler, MD

Walter Urusky, MD

Adjunct Assistant Professor

Mark A. Reischer, MD

Clinical Assistant Professors

Frederick J. Balsam, MD

Annamaria G. Basili, PhD

Sonia Estruch, MD

Tai-San Huang, MD

Research Assistant Professor

Jerome V. Danoff, PhD

Instructors

Charles Dankmeyer, Jr., BS

Albert Grant, MD

Marjorie Hendry, MD

Dorothy Shannon, PhD

Thomas Weiss, PhD

Rehabilitation Medicine is a broad term referring to the medical treatment and management of patients with disability due to neuromuscular and musculoskeletal impairments and the associated psychosocial and vocational elements. Physical medicine and rehabilitation is the medical specialty most intimately involved with rehabilitation medicine and concentrates on specific diagnostic and therapeutic skills required in the comprehensive evaluation of impairment and the application of appropriate therapy for its amelioration or the adaptation of the individual to the impairment.

The department has a multidiscipline structure containing appropriate elements of the allied health disciplines in addition to the specialist in physical medicine and rehabilitation (physiatrist). These are occupational therapy, physical therapy, speech pathology, social work, and vocational counseling. The department provides diagnostic, evaluative, therapeutic, and management services for the rehabilitation of patients of all ages who have in common some disorder of mobility. Its functions are frequently complementary to the activities of the other medical discipline, and a bed service at Montebello Rehabilitation Hospital is available for those patients requiring in-hospital rehabilitation.

UNDERGRADUATE MEDICAL PROGRAM

The department participates in several interdepartmental courses; namely, Introduction to Clinical Practice in the first two years, and Ambulatory Care in the senior year.

Elective clerkships in clinical rehabilitation medicine are offered in the sophomore, junior, and senior years, with the participation of Montebello Rehabilitation Hospital, Sinai Hospital of Baltimore, and the Veterans Administration Hospital at Fort Howard, Maryland.

GRADUATE STUDIES

An approved three-year residency program in physical medicine and rehabilitation is offered for those physicians wishing to specialize in this field.

SURGERY

Professor and Acting Chairman

Joseph S. McLaughlin, MD

The Department of Surgery is composed of six divisions: general surgery, neurosurgery, orthopaedics, otolaryngology, thoracic and cardiovascular, and urology. The faculty of the various divisions participate in the teaching of anatomy, pharmacology, physiology and introduction to clinical medicine, but do not offer formal courses until students enter their clinical clerkships. During this 12-week period, time is divided between general surgery and the specialties of orthopaedics, otolaryngology, and urology. Students may have clerkships at the University of Maryland Hospital or at one or more affiliated hospitals (Mercy, Maryland General, Baltimore City, St. Agnes, South Baltimore General).

Electives in surgical research and summer fellowships are available to students in all four years. More extensive clinical experience with greater patient responsibility is offered by all divisions to students as electives in their fourth year.

The surgical clerkships give the student exposure to those disease entities which can or should be treated by operative intervention and to those physiologic and metabolic alterations which arise from such intervention. Students are expected to gain experience in recognition of conditions which will require surgical consultation and gain appreciation of wound care as well as familiarity with basic emergency procedures. This should enable the future internist, pediatrician or psychiatrist to discuss with his patient the probable treatment and prognosis of various surgical diseases, as well as giving students the opportunity to explore various surgical disciplines and to participate fully in the daily activities of surgical teams.

Graduates of approved medical schools will be considered for residencies in general surgery, neurological surgery, orthopaedics, otolaryngology, thoracic and cardiovascular, and urologic surgery.

Division of General Surgery

Professor Emeritus

George Yeager, MD

Professors

Fuad J. Dagher, MD

E. George Elias, MD, PhD

T. Brannon Hubbard, Jr., MD

Harry C. Hull, MD

Clinical Professor

Alex J. Haller, Jr., MD

Associate Professors

Elliott M. Badder, MD

Everard Cox, MD

Mukund S. Didolkar, MD

Laurence J. Hill, MD

Dennis W. Shermeta, MD

Assistant Professors

Francis A. Clark, Jr., MD

Donald D. Coker, MD

Graham Fallon, MD

Thomas R. Gadacz, MD

Arthur Gudwin, MD

William D. Lynn, MD

Karl Mech, Sr., MD

Stanley L. Minken, MD

Don Morris, MD

Joseph Orlando, MD

Herbert Ormsbee, III, MD

Luis A. Qeral, MD

William P. Reed, MD

William B. Rever, Jr., MD

John A. Singer, MD

Robert Spence, MD

Kristin Stueber, MD

Chi-Tsung Su, MD

Sullins G. Sullivan, MD

Hans R. Wilhelmsen, MD

Clinical Assistant Professors

Robert G. Chambers, MD

Neil Novin, MD

Instructors

William Bouchelle, MD

Raymond M. Cunningham, MD

Elizabeth Hilliker, MD

Darrell Arthur Jasion, MD

August D. King, Jr., MD

Sidney Mir, MD

Jerome Plasse, MD

Anthony J. Raneri, MD

Kenneth F. Spence, MD

Edmund C. Tortolani, MD

Robert Wilensky, MD

Associates

William G. Arminger, MD

Ruben F. Ballesteros, MD

Elie J. Fraiji, MD

Roger L. Gordon, MD

Umbert Hart, MD

William Linus Macon, IV, MD

Paul N. Manson, MD

George J. Mehler, MD

Constantine J. Padussis, MD

David Stephen Shear, MD

Clinical Associates

Larry Leonard, MD

UNDERGRADUATE MEDICAL PROGRAM

Third Year

GSUR 530. The teaching of general surgery is conducted in the in-patient environment of the University of Maryland, Baltimore City, Maryland General and Mercy hospitals. Students are divided into groups of two or three for continuous assignment to individual patient areas. Upon admission to the service, selected patients are assigned to individual students who are expected to record a complete history, the results of a physical examination and required laboratory studies. A differential diagnosis, final diagnosis and recommendations for therapy must be included. Operation room participation is encouraged but not required.

The program is designed to give the student a broad overview of the fundamentals of the discipline of surgery in a clinical environment and includes contact with a wide variety of adult and pediatric patients. This includes patients with infections, neoplasms, trauma, endocrine disorders, vascular disease, gastrointestinal problems, metabolic disorders and congenital defects often requiring extensive medical evaluation followed usually by surgical therapy.

The student is responsible for core reading material which is identical regardless of hospital assignment. Emphasis throughout the course is placed on problem solving through correlation of basic science information with clinical diagnosis and management.

Fourth Year

GSUR 541. Elective Clerkships. This elective allows the student to participate as an integral member of a surgical care team. Students are assigned to various services at University of Maryland Hospital in oncology, gastrointestinal surgery, vascular surgery, or pediatric surgery.

Surgical ward clerkships are available at the following affiliated hospitals: Maryland General, Mercy, Baltimore City, St. Agnes, Prince George's General, and York (Pa.).

A clinical clerkship is offered at the U.S. Public Health Service Hospital.

Consult the medical school electives catalog for course details.

GRADUATE AND POSTGRADUATE PROGRAMS

A fully-accredited residency is offered at the University of Maryland Hospital and one affiliated hospital, Mercy. Additionally, research fellowships are available; and, for the practicing physician, short refresher courses are given.



Division of Neurological Surgery

Professor Emeritus

James G. Arnold, MD

Professor and Head

Thomas B. Ducker, MD

Professors

Robert M. N. Crosby, MD

Raymond Thompson, MD

Associate Professor

Michael Salcman, MD

Assistant Professors

Walker Robinson, MD

G. Lee Russo, MD

Thomas Saul, MD

Israel H. Weiner, MD

Instructors

Douglas Abbott, MD

David Cook, MD

Joseph K. Jamaris, MD

Charles J. Lancelotta, MD

Edward L. Layne, MD

Paul D. Meyer, MD

Jorge R. Ordonez, MD

Arun B. Sapre, MD

Panayiotis Sitaras, MD

Joseph A. Soliman, MD

Fred N. Sugar, MD

UNDERGRADUATE MEDICAL PROGRAM

First and Second Years

In the first year, the staff participates in a combined program with the Department of Neurology in which correlative lectures and demonstrations are given and the fundamentals of the neurological examination are demonstrated. During the second year, a similar program is carried out that allows students to examine patients, followed by faculty review.

Third Year

In the third year, each student spends three weeks on a combined medical and surgical neurology rotation in which lectures are combined with clinical experiences gained on the two services. Opportunities are provided for observing neurosurgical procedures and participating in all the functions of the service.

Fourth Year

A fourth year elective is available in clinical neurosurgery in which the participation of the student is deepened, both in the operating room and in the daily performance of patient care.

In all years, opportunities are available to participate in the neuro-oncology research laboratories in the areas of model brain tumors, tissue culture, microwave hyperthermia and chemotherapy. A preceptorship in pediatric neurosurgery is also available. Students interested in microneurosurgery, the pathophysiology of spinal trauma and neurophysiology are welcome in the other research laboratories of the division.

GRADUATE STUDIES

Rotations are offered to general surgery residents from the University and affiliated hospitals. A training program in neurological surgery is offered to graduates of accredited medical schools who have completed one year of surgical residency. The five-year program is accredited by the American Board of Neurological Surgery. Fellowships are available in neuro-oncology and neuro-trauma.

Division of Orthopaedic Surgery

Professor

Thomas Morgan, MD

Associate Professor and Head

Charles C. Edwards, MD

Associate Professors

Liebe S. Diamond, MD

John E. Kenzora, MD

Roger H. Michael, MD

John J. Tansey, MD

Clinical Associate Professor

Robert C. Abrams, MD

Assistant Professors

William H. Baugher, MD

Bruce Browner, MD

Scott Decker, MD

James G. Gamble, MD

George H. Greenstein, MD

Homer C. House, MD

Alan Levine, MD

Jerome P. Reichmister

Warren H. Sothoron, MD

Instructors

Jivaka DeSilva, MD

Stanley Friedler, MD

Alexander Kuehl, MD

William I. Smulyan, MD

Stuart Winakur, MD

Clinical Instructors

Burke D. Haskins, MD

Thomas V. Whitten, MD

Clinical Associates

Michael Jaworski, MD

Claudia Thomas, MD

UNDERGRADUATE MEDICAL PROGRAM

First and Second Year

Electives. Freshmen or sophomore medical students may develop minimester electives in clinical orthopaedics or musculoskeletal research with individual members of the orthopaedic surgical faculty. Projects include anatomic dissections with research or clinical value, participation in ongoing projects at the Maryland Orthopaedic Research Laboratories, or clinical experiences emphasizing joint reconstruction, major trauma, or spinal injury surgery.

In addition to these electives, the Division of Orthopaedic Surgery provides a lecture series for students in conjunction with the Introduction to Clinical Practice program.

Third Year

OSUR 530. Orthopaedic Surgery, University of Maryland Hospital. The course is designed to teach the general principles of orthopaedic surgery and introduce medical students to fracture recognition and management, reconstructive surgery of the musculoskeletal system, and to common out-patient conditions affecting the musculoskeletal system. Under supervision, students participate in patient diagnosis and treatment as well as surgery. Daily student conferences and didactic sessions are held in addition to the division's intensive academic program.

Orthopaedic Surgery: Affiliated Hospitals. A clinically-oriented course in the principles and techniques of orthopaedic surgery is offered under the direction of the full-time University of Maryland Orthopaedic Surgery faculty at St. Agnes Hospital, Kernan's Hospital for Crippled Children, and Baltimore City Hospitals.

Fourth Year

Electives. One senior student is selected each month for an internship-level clinical and surgical experience on each of the services listed below. Students are encouraged to participate in the ten weekly orthopaedic conferences and seminars at University of Maryland Hospital. Each of the four senior electives is under the direction of an on-site, full-time member of the orthopaedic faculty.

University Teaching Service Elective (UMH)

Major Trauma and Spinal Injury Service Elective (MIEMSS)

St. Agnes Hospital Orthopaedic Service Elective

Kernan Hospital for Crippled Children Elective

GRADUATE STUDIES

The Division of Orthopaedic Surgery offers an accredited four-year residency program. Clinical and surgical experiences are achieved on the teaching, private, and hand services in University of Maryland Hospital, the major trauma and spinal injury services in the Maryland Institute for Emergency Medicine, on the pediatric orthopaedic service at Kernan Hospital and on our services at St. Agnes Hospital and Montebello Rehabilitation Hospital. An intensive academic program and research involvement complement this clinical experience.

Division of Otolaryngology

Professor and Head

Cyrus L. Blanchard, MD

Clinical Associate Professor

Margaret M. Fletcher, MD

Assistant Professors

Dole P. Baker, MD

Stanley L. Blum, MD

Jerrie Cherry, MD

Regina Cicci, MD

William C. Gray, MD

Hubert Leveque, MD

Research Assistant Professor

Charles M. Suter, PhD

Instructors

Enzo Cosentino, MD

Milton L. Engnoth, MD

Madeline J. Fox, MS

Barry E. L. Ominsky, MD

Juan M. Pardo, MD

The division provides an introduction to the diseases of the head and neck. A wealth of opportunity is provided to the student who will be concerned with communication disability and the clinical diseases where hearing, speech and language are of diagnostic significance.

The staff with the assistance of the postdoctoral trainees provide each student by example, lecture and direct tutorial instruction, the essentials with which to enter residency in such fields as family practice, pediatrics, general surgery, neurosurgery, neurology, psychiatry and otolaryngology.

UNDERGRADUATE MEDICAL PROGRAM

First and Second Years

Introduction to the diseases of the head and neck is begun through interdepartmental arrangement with anatomy and physiology in the first year. Introduction to Clinical Practice provides freshman students in second semester with six hours of experience in the techniques of examination of ears, nose and throat. During the second year, six hours of experience throughout the year allows more advanced examination of the head and neck.

Third Year

Third year students are introduced to the care of patients with diseases of the ears, nose and throat. One hour of basic audiological technique is presented to each group by an audiologist and one hour of introductory speech pathology is presented by a speech pathologist.

Fundamental elements of otolaryngologic diagnosis and therapy are stressed in this program of approximately 14 days.

Fourth Year

Electives. Electives are offered in the following areas: basic clinical otolaryngology, advanced otolaryngology, communication disorders, investigation in otolaryngology, physiology of hearing and surgical otolaryngology. For detailed course descriptions, consult the medical school electives catalog.

GRADUATE STUDIES

Resident training in otolaryngology is open to three residents in each of the four years of the American Board of Otolaryngology-approved program.

Division of Thoracic and Cardiovascular Surgery

Professor and Head

Joseph S. McLaughlin, MD

Professors

Sufah Attar, MD
R Adams Cowley, MD
David C. Green, MD

Associate Professors

John R. Hankins, MD
John F. Miller, MD

Assistant Professors

Anthony L. Moulton, MD
Stephen Z. Turney, MD

Instructors

Fred N. Cole, MD
Karl Mech, Jr., MD

Associate

Ferdinand S. Leacock, MD

UNDERGRADUATE MEDICAL PROGRAM

Fourth Year

TSUR 541. Externship in Thoracic Surgery Elective. Its main purpose is to present the basic pathophysiological principles of thoracic and cardiovascular surgery, a highly specialized and demanding discipline, in a clinical setting. The student becomes a member of one of the teams on the service and serves in the capacity of an intern. Duration of the course is four weeks with a maximum of 12 weeks available.

GRADUATE STUDIES

The two-year residency program which admits one trainee each year is approved by the American Board of Thoracic Surgery. Applicants must be eligible for the American Board of Surgery examination at the start of the program. Residents are given an opportunity to assist and then perform all types of cardiothoracic operative procedures, including cardiopulmonary bypass, in a program designed to ensure progressive experience.



Division of Urology

Professor and Head

John D. Young, Jr., MD

Associate Professors

Edward W. Campbell, Jr., MD

Earl P. Galleher, MD

Assistant Professors

Nasir Bashirelahi, MD

Bruce W. Berger, MD

Louis C. Breschi, MD

Robert L. Doyle, MD

Howard B. Mays, MD

Instructors

Frederick G. Bermann, MD

Franklin M. Bialostozky, MD

Stephen M. Busky, MD

Robert B. Goldstein, MD

Suhayl S. Kalash, MD

Davis S. McHold, MD

Louis A. Shpritz, MD

Harry Wilson Smith, MD

Chawalt Suddhimondala, MD

The urologic curriculum is designed to introduce urologic principles as they relate to preservation of renal function, cause and cure of urinary tract infection, maintenance of a normal or acceptable voiding pattern, and disorders of the male reproductive system.

UNDERGRADUATE MEDICAL PROGRAM

Second Year

Lectures and demonstrations on disorders of urine transport are given in conjunction with the Division of Nephrology and the Department of Pathology during two weeks of instruction on the renal system.

Third Year

USUR 530. Junior Clerkship. Five to seven students are assigned to the division for 14 days at the University of Maryland Hospital. Each is asked to review and follow a patient with a different urologic problem and to present this patient to the group and a faculty member. Daily rounds and conferences are held. The students observe and participate in diagnostic and operative procedures and attend the out-patient clinic. Each student receives a list of study questions, some of which are reviewed at faculty sessions each day. Outlines for each of the nine lectures are given to each student.

Fourth Year

Electives. Students may elect an externship in urology at University of Maryland or Sinai Hospitals.

GRADUATE STUDIES

The residency program consists of three years following two prerequisite years of training, one of which must be in general surgery. Each year, three are appointed and become co-residents at the end of the third year if progress in training has been satisfactory.

MEDICAL TECHNOLOGY PROGRAM



PROGRAM

The University of Maryland offers a baccalaureate degree program in medical technology to be completed in four academic years. Students who have been accepted into the Medical Technology Program study during the junior and senior years at the School of Medicine of the University of Maryland at Baltimore. The program fulfills requirements set forth by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and the Council on Medical Education of the American Medical Association (AMA). Upon successful completion of the program, graduates are eligible to take the medical technology national certification examination given by the Board of Registry of the American Society for Clinical Pathology (ASCP).

Applicants must meet all admission requirements of the University of Maryland. At least three years of college preparatory mathematics and science, including chemistry and physics, are strongly recommended at the secondary level.

PREPROFESSIONAL CURRICULUM

Students must complete at least 60 semester hours of academic preparation, exclusive of health and physical education, before beginning the professional segment of the Medical Technology Program. The following curriculum guide, which fulfills University of Maryland and National Accrediting Agency for Clinical Laboratory Science requirements, will assist the student in planning the first two years of study. This guide allows flexibility should the student choose to pursue an alternative career-plan. The Program in Medical Technology has designated articulation with community colleges and state colleges within Maryland whereby courses are predetermined and transferable. An articulation publication is available in the counseling center of each of the community colleges.

General Education Requirements

A. Arts and humanities (12 semester hours)

English (6) — one course must be Composition

Speech (3)

Select an additional three hours from listed divisional courses

NOTE: Credit for foreign language will be given only upon completion of the first elementary year or of an advanced course.

B. Behavior and social sciences (6 semester hours)

Select any six hours from listed division courses.

Program in Medical Technology Requirements

A. Chemistry (16 semester hours of approved chemistry courses) to include:

Inorganic Chemistry with lab

Biochemistry

Select additional courses from following —

Organic Chemistry with lab

Analytical Chemistry with lab

Quantitative Analysis with lab

Physical Chemistry with lab

B. Biology (8 semester hours)

General Biology with lab required (4)

General Microbiology with lab required (4)

Recommended biology electives:

Genetics, Comparative Vertebrate Morphology,

Cellular Biology

NOTE: Anatomy and Physiology, Pathogenic Microbiology, and Immunology are a portion of the junior year of the Medical Technology Program and should not be taken prior to admission.

C. Mathematics (6 semester hours)

Introductory College Math (3,3): logic, sets counting, probability, sequences, elementary algebraic and transcendental functions and their geometric representations; linear equations, vectors, matrices; or equivalent.

OR

Calculus (3 or 4)

D. Electives (to complete the 60 semester hour requirement)

Recommended: Physics, Philosophy, Literature, Psychology, Sociology

NOTE: If science courses were taken more than seven years prior to admission, a recent course in microbiology or biochemistry must be taken.

Prospective applicants with credits from foreign educational institutions must have their credentials evaluated by the Credentials Evaluation Service, P.O. Box 24679, Los Angeles, California 90024. Students are urged to begin this evaluation well before their application to UMAB since the process may take a number of months to complete.

PROFESSIONAL CURRICULUM

The professional segment is administered by the University of Maryland School of Medicine at the Baltimore campus. Students are accepted into the Medical Technology Program on a competitive basis. Successful completion of 60 semester hours does not guarantee admission to the professional segment of the program.

Junior students are admitted once a year in the Fall. Students register for coursework during the fall, winter and spring semesters of both the junior and senior years at UMAB. Full-time attendance is required.

APPLICATION AND ADMISSION

Applications to the professional school will not be considered until the first semester of the sophomore year has been completed. Applicants must have a 2.0 overall grade point average (2.0 in science/math) and must have taken the Allied Health Professions Test. The applicant must submit an Undergraduate Professional Application for Admission. Requests for application should be submitted to: The Office of Admissions and Registrations, University of Maryland at Baltimore, Room 132, Howard Hall, 660 W. Redwood Street, Baltimore, Maryland 21201. Deadline for application is February 15.

Selection of applicants is based on successful completion of preprofessional courses and requirements, AHPAT scores, academic performance, submission of supplementary information, recommendations, and interviews. The UMAB Program is accredited to accept 60 students to the junior year, however, actual enrollment may be limited by the number of spaces available in the clinical affiliations. Admission decisions are made each Spring and classes begin for those students the following Fall.

Each student must satisfactorily complete the designated Medical Technology Program requirements with a cumulative grade point average of 2.0 or above in order to obtain a baccalaureate degree. In addition, the student must earn a 2.00 average in the senior year in order to graduate.

FINANCIAL AID

For information on financial aid, contact the Student Aid Officer, University of Maryland at Baltimore, Room 201, East Hall, 520 W. Lombard Street, Baltimore, Maryland 21201. Students are urged to file early so as not to miss any deadlines.

HOUSING

For information concerning housing at UMAB, contact the Director of Housing, University of Maryland at Baltimore, 621 W. Lombard Street, Baltimore, Maryland 21201.

STUDENT FEES (Fall 1980)

Matriculation Fee (New Students)	\$ 15.00
Tuition: In-State	352.50
Out-of-State	1275.00
Tuition: Part-time undergraduate per credit (8 or less)	41.00
Supporting Facilities Fee (Full-time)	30.00
Summer (Biochemistry)	6.00
Instructional Resources Fee (Full-time)	16.00
Summer (Biochemistry)	8.00
Student Health Fee (Full-time)	10.00
Summer (Biochemistry)	4.00
Student Activities Fee (Full- and Part-time)	10.00
Hospitalization Insurance*	
One person	106.68
Two persons	205.44
Family	274.68
Student Dormitory Fee - Single	710.00
Double	660.00
Graduation Fee	15.00
Late Registration Fee	20.00
Change of Fee	5.00

* Hospitalization Insurance - The University insurance program or equivalent insurance is required of all full-time professional school students in addition to the Student Health Fee. Students with equivalent insurance coverage must provide proof of such membership at the time of registration and obtain a hospital insurance waiver form to present to the Registrar.

NOTE: The University reserves the right to make changes in fees and charges without prior announcement.

UNDERGRADUATE MEDICAL TECHNOLOGY PROGRAM

MEDT 301. Laboratory Organization and Management (1). *Fall, Junior Year.* The course consists of an overview of the medical technology profession including the accreditation, licensure and certifying procedures. Laboratory safety is stressed and includes a standard Red Cross first aid course. A unit on the problems of the patient and effective interactions with the patient is included. Professional responsibility and ethics are integrated throughout MEDT 301 and MEDT 302.

MEDT 302. Laboratory Organization and Management (1). *Spring, Junior Year.* The extended responsibilities of medical technologists in clinical laboratories, research facilities and educational institutions require an understanding of organizational structure and management principles. While such skills become increasingly important as one advances in the profession, meeting the course objectives will enable the career entry technologist to function more effectively with colleagues in the institutional environment. Prerequisite: MEDT 301.

MANA 311-312. Anatomy and Physiology (4,4). *Fall and Spring, Junior Year.* The basic aim of these courses will be to develop an understanding of the human body and its behavior and to give a sound background in embryology, morphology, physiology, and elementary pathobiology. The theme of the courses will deal with homeostasis and mechanisms that serve to maintain it. The first semester deals with anatomy and physiology at the cellular and tissue level. The second semester will involve functional anatomy of organs and systems. Emphasis is on the interrelationships of all parts of the body. Appropriate laboratories will be incorporated into the sequence.

MEDT 321. Clinical Microscopy (2). *Fall, Junior Year.* This course involves microscopic study of all formed elements found in normal and abnormal body fluids. Methods of examination will include light, phase, fluorescent and polarized systems in addition to appropriate histochemical basis for microscopic study.

MEDT 355. Clinical Chemistry I (2). *Fall, Junior Year.* This course provides the necessary background material and information to enable the student to function in the modern clinical chemistry laboratory. The series of academic lectures is designed to teach the biochemical basis for determinations required in the diagnosis of disease. Normal and abnormal physiology are related to diseases. Tests helpful in diagnosis are emphasized. The course consists of a series of laboratories designed to provide an intensive study of the qualitative and quantitative principles and procedures utilized in the chemistry laboratory. Medical technology students must take MEDT 355 concurrently with MEDT 383 and MEDT 384.

MMIC 490. Pathogenic Microbiology (4). *Fall, Junior Year.* This course is designed to provide the student with a basic understanding of the pathogenic properties of various microorganisms in human disease. The course includes the study of the major groups of infectious agents with emphasis upon the differentiation and culture, clinical manifestations, infectious processes and epidemiological aspects of bacteria. Laboratory exercises designed to characterize the various groups of pathogens, as well as the study of the action of antibiotics and the processes of sterilization and disinfection will be discussed. Appropriate laboratories will be incorporated into the sequence. Prerequisite: General Microbiology.

MEDT 383. Statistics and Quality Control (1). *Fall, Junior Year.* This course is a study of statistics, population, and quality control in allied health disciplines. An introduction to basic statistical concepts such as population, sample, null hypothesis, and confidence limits will be presented. Ways to represent frequency distribution (histogram, frequency table, etc.), measures of location (mean, median, mode, percentile), and dispersion in the frequency distribution (variance, standard deviation). Medical technology students must take MEDT 383 concurrently with MEDT 384 and MEDT 355.

MEDT 384. Electronics and Instrumentation (1). *Fall, Junior Year.* This course is designed to acquaint students with the basic principles of electronics and instrumentation to include spectrophotometers, visible and ultraviolet, flame photometers, fluorometers, osmometers and thin layer and gas chromatographic systems. Medical technology students must take MEDT 384 concurrently with MEDT 355 and MEDT 383.

MEDT 491. Immunology (4). *Winter, Junior Year.* This course is designed to provide the student with a basic understanding of current immunological concepts and their application in the diagnoses, prevention and treatment of infectious and noninfectious disease processes. Appropriate laboratories will be incorporated into the sequence. Prerequisite: MEDT 490.

MEDT 365. Fundamentals of Transfusion (2). *Winter, Junior Year.* This course is designed to provide the medical technologist with a general survey of the need, current use, and patient response to transfusion therapy. Basic physiology affected by blood loss will be ascertained as well as the pathophysiology of the red cells needed for transfusion, both routine and massive. A history of blood transfusion will be discussed along with all other aspects of transfusion therapy.

MEDT 356. Clinical Chemistry II (3). *Spring, Junior Year.* This course provides the necessary background material and information to enable the student to function in the modern clinical chemistry laboratory. The series of academic lectures is designed to teach the biochemical basis for determinations required in the diagnosis of disease. Normal and abnormal physiology are related to diseases. Tests helpful in diagnosis are emphasized. The course consists of a series of laboratories designed to provide an intensive study of the qualitative and quantitative principles and procedures utilized in the chemistry laboratory. Prerequisites: MEDT 355, 383 and 384.

MEDT 331. Hematology I (3). *Spring, Junior Year.* This course is an introduction to the hematopoietic systems. It involves a study of techniques used in clinical hematology laboratories. Testing is performed in a simulated clinical laboratory setting on normal samples. Lecture and laboratory topics include the following: origin, development, and function of blood cells, methods of studying blood, normal physiology, metabolism of blood cells, and abnormal red cell morphology and associated pathogenic findings with emphasis on the classification of anemias.

MEDT 374. Clinical Microbiology I (4). *Spring, Junior Year.* The scope of this course is to acquaint the student with current laboratory procedures commonly employed in the clinical environment to isolate and identify pathogenic organisms. Didactic sessions will be devoted to the biologic and clinical basis of infectious diseases whereas laboratory sessions will be based upon specimen pathogen analysis. Prerequisite: MEDT 490, Pathogenic Microbiology.

MEDT 401. Fundamentals of Pathology (2). *Fall, Senior Year.* This course will deal with disease, pathogenesis, and discussion of representative diseases in each etiological category; diagnostic procedures used in various diseases; and rationale related to laboratory testing. These discussions will be condensed and concise presentations.

MEDT 403. Research Elective (1). This course is designed to give the student the opportunity to devote one full week in an area in which he has a special interest. This may be clinically or research oriented. The student will be under direct supervision of a didactic or clinical instructor and will be requested to prepare a report of his/her achievement.

MEDT 432. Hematology II (3). *Fall, Senior Year.* This is an advanced course in Hematology designed for senior medical technology students. Emphasis is placed on diseases and disorders pertaining to abnormal hematology. The course overviews normal hematology followed by in-depth theoretical and practical concentration in disease mechanisms. The following are considered: disorders associated with the anemias, polycythemia, leukemia and leukemoid reactions, plasma cell and plasma protein abnormalities, lupus erythematosus, theory and mechanism of normal hemostasis and associated diseases. Testing is performed in a simulated clinical laboratory setting on abnormal samples. Correlation of clinical studies with abnormal laboratory findings is presented by case studies. Prerequisite: MEDT 331.

MEDT 452. Clinical Chemistry III (3). *Fall, Senior Year.* This course deals with the significance of chemical reactions in diagnostic procedures and their relationship to the disease process. Emphasis is placed on accuracy, precision, and the limitations of tests. In the study of organ function, interpretation, evaluation and rational analysis of clinical laboratory problems are practiced. Prerequisite: MEDT 356.

MEDT 453. Clinical Chemistry Practice (5). *Senior Year.* This period of instruction is included to enable the student to apply and perfect the procedures learned in didactic lectures and laboratories. The instruction is conducted in a clinical environment and under the auspices of proficient laboratory technologists and provides an opportunity for the student to attain practical knowledge and maximum proficiency. Prerequisite: MEDT 452.

MEDT 463. Clinical Hematology Practice (5). *Senior Year.* This course is a rotation through the clinical hematology laboratory which incorporates instruction and oral examinations in routine hematology, special hematology and coagulation. Applied professional experience includes the use of the most modern methods and instrumentation in the analysis of hematological and coagulation samples. Proficiency in manual and automated methods is required. Prerequisite: MEDT 432.

MEDT 464. Immunohematology (3). *Fall, Senior Year.* This course is a study of immunologic principles applied to the preparation of blood for transfusion. The immunology of antibody production and antigen-antibody reactions is presented. Laboratory work emphasizes explanation and performance of technical blood bank methods. Prerequisite: MEDT 365.

MEDT 467. Clinical Immunohematology Practice (3). *Senior Year.* This course consists of applied professional experience in a clinical blood bank laboratory. Instruction and oral examinations are given at the bench in routine and specialized areas of the modern blood bank. Students enrolled in this course are expected to demonstrate a high level of proficiency in all areas of blood banking prior to completing the course. Prerequisite: MEDT 464.

MEDT 472. Clinical Microbiology II (3). *Fall, Senior Year.* The objective of this course is to acquaint the student with the most recent trends in laboratory diagnosis, as well as provide him with insight into the problems associated with nosocomial infections, iatrogenic infections, infection control, unusual infectious agents and changing spectrums in antibiotic therapy. Laboratory sessions will address sophisticated techniques employed in the identification of infectious agents. Prerequisite: MEDT 364.

MEDT 473. Clinical Microbiology Practice (5). *Senior Year.* This course involves a period of instruction which enables the student to apply and perfect the various microbiological techniques learned in didactic lectures and laboratories. This instruction is conducted in a clinical environment under the auspices of proficient laboratory technologists and provides an opportunity for the student to attain practical knowledge in laboratory procedures. Prerequisite: MEDT 472.

MEDT 474. Clinical Immunology/Serology Practice (2). *Senior Year.* This course is designed to permit the student to apply and perfect the immunological and serological procedures utilized in the clinical laboratory. It is conducted in the clinical environment under the direction of proficient technologists. Prerequisite: MEDT 491.



FACULTY

- Anthony, Ronald L.**, Associate Professor and Director of Clinical Immunology
BA, Susquehanna University; PhD, University of Kansas.
- Baer, Martha L.**, Counselor and Instructor
BA, Indiana University.
- Baldwin, Anna J.**, Clinical Coordinator
BS, MT(ASCP), George Washington University.
- Bastio, Elizabeth**, Instructor
BA, College of Notre Dame in Maryland; MS, University of Maryland.
- Cartwright, Willie Q.**, Assistant Professor
BS, Howard University; MT, United States Army Medical Service School, MS, State University of New York at Buffalo.
- Cherng, Ai-Shuan S.**, Instructor
BS, National Taiwan University; MT, Health Department of Florida; MS, Indiana University.
- Constantine, Niel**, Instructor
BS, MT (ASCP), University of Maryland
- Griffey, Vivi-Anne W.**, Instructor
BS, MT(ASCP), University of Maryland.
- Harr, Robert R.**, Instructor
BS, Kent State University; MT, Cleveland Clinic Foundation School of Medical Technology; MS, Ohio State University.
- Jiji, Rouben**, Associate Professor
MD, Royal College of Medicine, Baghdad, Iraq.
- Knoblock, Edward C.**, Associate Professor
AB, Western State College of Colorado; MS, University of Maryland.
- Kula, Theodore**, Assistant Professor
BS, University of Dayton; MT (ASCP), St. Joseph's Hospital of Lexington, Kentucky; MS, University of Dayton; PhD, University of Kentucky.
- Masters, Jason M.**, Program Director and Associate Professor
BS, High Point College; MS, Sul Ross State; PhD, University of Maryland.
- McClain, William**, Instructor
BS, Edward Waters College; MA, Atlantic University.
- McMichael, Joseph**, Instructor
BS, MT(ASCP), University of Maryland.
- Pawar, Vinayak B.**, Assistant Professor
BS, University of Bombay; MT(ASCP) Saint Frances Hospital School of Medical Technology; M(ASCP) Boone County Hospital; MS, University of Missouri; PhD, University of Kentucky.
- Pittiglio, Denise Harmening**, Instructor
BS, MT(ASCP) and MS, University of Maryland.
- Wilson, Johanna E.**, Academic Coordinator
BS, MT(ASCP), University of Maryland.

Clinical Faculty

- Dawson, R. Ben**, Assistant Professor and Director of Blood Bank
AB, and BS, Hampden-Sidney College; MD, University of Virginia.
- Rasmussen, Peter**, Professor and Laboratory Director
MD, Temple University.
- Seiguer, Alberto**, Associate Professor and Director of Hematology
MD, University of Buenos Aires.
- Smith, Andrew G.**, Associate Professor and Director of Microbiology
BS, Pennsylvania State University; PhD, University of Pennsylvania.
- Tigertt, William D.**, Professor and Medical Director
AB and MD, Baylor University.

PHYSICAL THERAPY PROGRAM



PHILOSOPHY

The Physical Therapy Department of the University of Maryland School of Medicine seeks with every available resource to educate physical therapy students, maintain active programs for professional growth of faculty, and support research and continuing education in an effort to enhance the academic and clinical state of the art. As part of the health care delivery team, students and faculty strive to provide the best possible health care and service to the community and the state.

ACCREDITATION

Since 1956, the University of Maryland has offered a two-year professional program in physical therapy. Completion of a two-year preprofessional program and subsequently the professional program results in a Bachelor of Science degree and a Certificate of Proficiency in Physical Therapy. The University of Maryland is accredited by the Middle States Association of Colleges and Secondary Schools and the physical therapy curriculum is approved by the Council on Medical Education of the American Medical Association in collaboration with the American Physical Therapy Association. A graduate is eligible to become a member of the American Physical Therapy Association and to apply for professional licensure in Maryland and in other states.

CLINICAL AFFILIATIONS

Clinical education is an essential part of the total physical therapy program offered at the University of Maryland. Currently, there are more than 80 centers being used for experiences in acute/general, chronic/rehabilitation, orthopedic, sports medicine, pediatrics and community health settings. These centers are located over a wide geographic area throughout the United States but primarily in the northeastern corridor.

During 21 to 23 weeks of full-time clinical affiliation the student has the opportunity to utilize what has been learned in didactic courses and to implement therapeutic, evaluative, and interpersonal skills in the care of patients.



PREPROFESSIONAL CURRICULUM

Freshman-Sophomore Curricula. Preprofessional education consists of liberal arts and science courses which the student may take within the University of Maryland system or at any other accredited college or university. These courses have been selected to fulfill the professional prerequisites and also to provide a wide variety of career options without subsequent loss of credit should a student elect to choose another course of study.

	Semester Hour Credits
Mathematics (Two college level courses which may be algebra and trigonometry OR any math course above that level)	6
Statistics (General or introductory statistics to include at least mean, mode, median, random variables, variance, confidence limits and binomial probability)	3
Chemistry (General college chemistry, with lab)	8
Physics (General college physics, with lab)	8
Zoology or Biology (One course in General Zoology or Biology for science majors, with lab and one course in Human or Comparative Anatomy, with lab)	8
Social Science (Afro-American studies, anthropology, economics, government and politics, urban studies, sociology, geography)	3
Psychology (One introduction or general course and one of developmental, education or personality study — abnormal psychology is recommended)	6
English Composition (Students with advanced credit or exemption may substitute a three-credit elective)	3
Speech, Public Speaking, or Communications (Students with one year of speech in high school may substitute a three-credit elective upon furnishing a transcript)	3
Arts & Humanities (History, literature, foreign language, philosophy, appreciation of: art, music, drama, dance)	6
Electives (No more than two credits of nontheory or skills may be applied. Review or introductory courses may not be used if they are below the required level in biology, chemistry, physics, and mathematics. Physiology is recommended, but selection may be made in any area of individual interest.)	6
	Total 60 SHC 90 QHC

Articulation Programs. The professional physical therapy program has designated articulation with the following institutions, whereby courses are predetermined and transferable:

Anne Arundel Community College
Alleghany Community College
Catonsville Community College
Cecil Community College
Charles County Community College
Chesapeake College
The Community College of Baltimore
Dundalk Community College
Essex Community College
Frederick Community College
Garrett Community College
Hagerstown Junior College
Harford Community College
Howard Community College
Montgomery College
Prince George's Community College
Frostburg State College
University of Maryland

Baltimore County, College Park, Eastern Shore Campuses

An articulation publication is available in the counseling center of each of the community colleges. Information regarding the three campuses of the University of Maryland, as well as Frostburg State College, can be found in their respective catalogs.

PROFESSIONAL DIVISION ADMISSIONS

An Admissions Committee is charged with selecting 52 students annually for the junior class which begins in June. Final selection is based on the following: grade-point average in the preprofessional curriculum courses only, results of an Allied Health Professions Admissions Test, information obtained from a Personal Data Form, letters of reference, and a personal interview.

Minimum qualification at the junior level is the completion of 60 designated credits in which no grade of less than C is acceptable. In addition, at least 18 credits must be completed in the math and science area by December 31, which is the application deadline.

There is no exclusion based on sex, age, race, ethnic background or prior completion of another academic degree.

Nonresident candidates are limited to a maximum of 20 percent. It is, therefore, reasonable to assume that at least a B average would be needed to be considered for selection.

Prior work or volunteer experience in a health-related facility, especially physical therapy, is strongly recommended.

PROCEDURE

Admission Application. To obtain an application, address your request to the University of Maryland at Baltimore, Office of Admissions and Registrations, 660 W. Redwood Street, Baltimore, Maryland 21201 or phone (301) 528-7480. Applications become available after October 1 preceding the year of admission. Deadline date for receipt of application is December 31, and supporting documents (transcripts) must be received by February 1 of the year of admission. Applicants are requested to submit either a catalog or a photocopy of a catalog description of all prerequisite courses completed at a college or university outside of the state of Maryland. This information is vital to processing the application.

Allied Health Professions Admissions Test. To obtain an Allied Health Professions Admissions Test application, address your request to the Psychological Corporation, 304 East 45th Street, New York, New York 10017. Only scores of a test taken prior to or in January will be used for June selection. Request that your scores of the test be mailed to the Department of Physical Therapy.

Personal Data Forms will be mailed to those applicants achieving the highest scores based on both the grade-point average in required courses already completed and scores on the Allied Health Professions Admissions Test. Plans for completing any remaining required courses in the spring semester will need to be documented.

Interviews will be held for a select number of applicants who will be so notified.

Based on criteria as outlined, determination of candidates will be made for the existing 52 positions and also for an alternate list. Students will be notified of their status before the end of May.

HOUSING

For information contact the Director of Housing, University of Maryland at Baltimore, 621 W. Lombard Street, Baltimore, Maryland 21201.

FINANCIAL AID

For information contact the Student Aid Officer, University of Maryland at Baltimore, Room 201, East Hall, 520 W. Lombard Street, Baltimore, Maryland 21201. There is a February 15 *priority* date for consideration for campus-based funds and *deadline* date for Maryland State Scholarship Board funds. Students interested in MSSB scholarships are urged to file early so as not to miss the deadline.

TUITION AND FEES

	Beginning Summer	Fall Semester	Spring Semester
Matriculation Fee (new students)	\$ 15.00	\$ —	\$ —
Tuition: In-State	252.00	352.50	352.50
Tuition: Out-of-State	252.00	1,275.00	1,275.00
Instructional Resources Fee	—	16.00	16.00
Supporting Facilities Fee	6.00	30.00	30.00
Student Activities Fee	—	7.50	7.50
Student Health Fee	—	10.00	10.00
Student Liability Insurance	—	28.00	
Hospital Insurance/Blue Cross (required if not covered elsewhere)			
Individual	—	106.68	106.68
Two Persons	—	205.44	205.44
Family	—	274.68	274.68
Dormitory Fee			
Single Occupancy	—	710.00	710.00
Double Occupancy	—	660.00	660.00
Graduation Fee (senior year)		—	15.00
Clinical Education			
Junior summer, 3 weeks	\$ 88.00		
Senior summer, 6 weeks	\$170.00		
Approximate cost of books, uniforms, etc. per year	\$250.00		
(Costs as listed are subject to change)			

The student should plan his/her finances according to a full academic schedule. The beginning summer of the junior year consists of a concentrated six-week session and there is a three-week affiliation in the following summer.

PROFESSIONAL CURRICULUM POLICIES

GRADING

Each student is responsible for his/her academic work and progress. To progress satisfactorily, the quantitative and qualitative requirements of each course in the Department of Physical Therapy must be met. Faculty will assist as needed or requested.

The following symbols comprise the department's grading system.

Symbol	Quality Points	Definition
A	4	Excellent mastery of the subject; outstanding scholarship
B	3	Good mastery of the subject; good scholarship
C	2	Acceptable master of the subject; usual achievement expected
D	1	Borderline understanding; marginal performance. This grade does not represent satisfactory progress toward a degree and must be repeated.
F	0	Failure to understand the subject; unsatisfactory performance
I	0	Incomplete. This is an exceptional grade given only to a student whose work has been qualitatively satisfactory when, due to illness or other circumstances beyond his control, he has been unable to satisfactorily complete some small portion of the coursework. The student will remove the "I" by completing work assigned by the instructor by the end of the next semester in which he/she is enrolled at UMAB. Otherwise, the "I" becomes equivalent to an "F" grade.
WD	0	Withdrawal from the program.
AU	0	Under certain circumstances a student may register to audit a course. To have the audit notation appear on the student's transcript, it will be required of the student that he/she attend a definite number of classes
P/F	0	Pass/Fail indicates satisfactory or unsatisfactory completion of the course requirements. This grading will be used only in those courses designated by the department.

CLASS ATTENDANCE

Students are accountable for all work missed due to absence. With a justifiable absence an instructor may assist the student in making up work at a time that will not interfere with the progress of other students. Absenteeism from classes requiring student participation, such as laboratory sessions, group discussions, reports or demonstrations may be used in the overall evaluation of the student. A grade of "I" may be given until such work has been satisfactorily completed. Attendance in clinical education courses is mandatory.

ACADEMIC PROBATION

If a student does not achieve a 2.0 average for a given semester, he/she will be placed on academic probation. A student will be academically dismissed at the end of a second consecutive semester wherein he/she receives less than a 2.0 average. A student may also be dismissed if he/she does not achieve an average high enough in the semester following academic probation to bring his cumulative average in the professional portion of the program to 2.0.

ADVANCEMENT AND GRADUATION

If a student receives a "D" grade in a professional course, his/her case will be referred to the faculty who will make recommendations to the department chairman as to how this grade may be removed.

An "F" grade may not be removed from a student's transcript. At the discretion of the faculty and the department chairman, a student may be allowed to repeat the course at UMAB or take an equivalent course at another university.

Before a student will be allowed to progress to the junior clinical affiliation, the senior year, and the senior clinical affiliations, the following must prevail: grades of "C" or better in all courses taken to date and faculty consensus of student's professional competency.

Before a student will be certified for graduation the following must prevail: satisfactory completion of all required courses with grades of "C" or better and faculty consensus that the student is professionally competent.

DISMISSAL

The faculty of the Department of Physical Therapy reserves the right to ask the Dean of the School of Medicine to dismiss a student from the university for any of the following reasons: failure to meet academic requirements; infraction of university rules; possessing a physical or mental health problem which interferes with the student's competence in practicing physical therapy; behavior which displays a lack of professionalism; or a failure to observe the moral and ethical standards of the Physical Therapy profession.

READMISSION FOLLOWING DISMISSAL

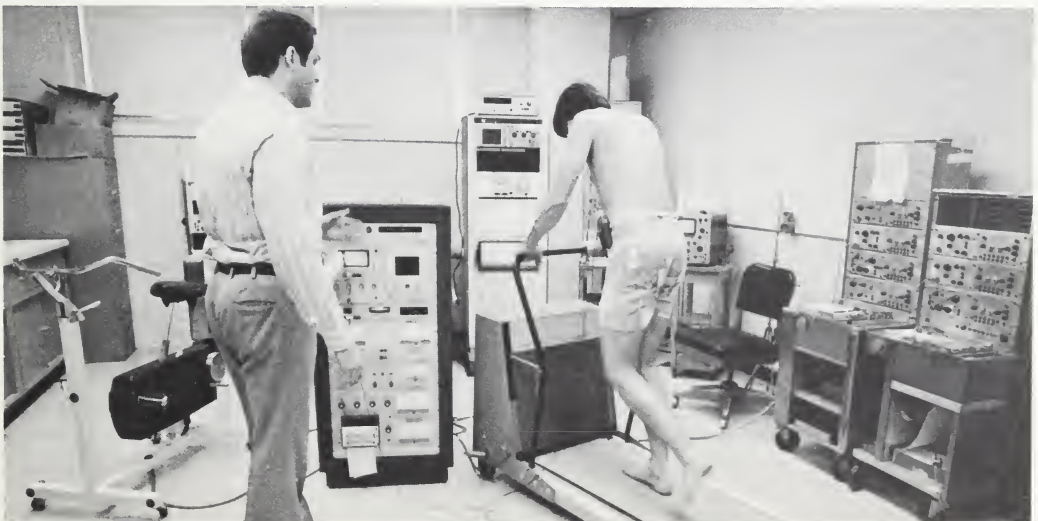
Any student desiring to be readmitted may petition the faculty for consideration by submitting all supporting documents to the Admissions Committee for processing and referral to the faculty. Readmittance requires a $\frac{2}{3}$ majority vote of the faculty.

CREDIT BY EXAMINATION

Courses within the department may, in certain cases, be satisfactorily completed under "credit by examinations" procedures. These procedures, along with detailed rules and regulations, appear in a handbook given to all physical therapy students.

SCHOOL OF MEDICINE CATALOG

Since physical therapy students are part of the School of Medicine, they are advised to avail themselves of the general and applicable information found in the School of Medicine catalog.



PROFESSIONAL CURRICULUM (83-85 Semester Hour Credits)

Junior-Senior Curricula. Professional education is offered only at the Baltimore City campus of the University of Maryland (UMAB). A student must make separate application and submit to an admission process for the professional portion. Admission to the University of Maryland system as a freshman or sophomore does not guarantee admission to the professional program, since competition is keen and enrollment is limited to 52 positions.

Academic advisement is available to students enrolled on the UMCP and UMBC campuses. Other interested students should contact the secretary for admissions at the Baltimore City campus, or, in the case of students at one of Maryland's public community colleges, seek information about required courses at his/her school's counseling center.

Students may receive credit by achieving percentile scores of at least 50% on the College Level Examination Placement (CLEP) tests. Students should request that official results of these tests be sent to the Department of Physical Therapy for credit evaluation if the scores have not been posted on their transcript.

Junior Year, Summer Semester (6 SHC)

PTAB 400. Human Anatomy I. (4). A study of the morphology of the human upper extremity and thorax through lecture and cadaver dissection. Emphasis is placed on the musculoskeletal and neuromuscular systems. Consideration is given to clinical entities. Classes will be integrated with Physiology, Pathology, Manual Muscle Testing and Range of Motion. (32 lec., 96 lab.)

PTAB 402. Human Physiology I. (2). Survey of human physiology related to body systems. Major emphasis placed on cell physiology, nervous system, muscular system, and physiology of bones.

Junior Year, Fall Semester (17 SHC)

PTAB 321. Professional Relations I. (2). Introduction to the concepts of professionalism and ethical behavior. Professional organizations and mechanisms of regulation such as accreditation, certification and licensure are discussed. Basic medical terminology and written/verbal communications are included. Visits to facilities are scheduled to allow students to observe clinical practice. (16 lec., 48 clinic)

PTAB 330. Manual Muscle Testing and Range of Motion. (1). Principles and techniques of performing, recording and analyzing manual muscle and range of joint motion tests are presented. Methods of assessing muscle flexibility, girth, length and strength are included. Coursework is presented along with Human Anatomy I and Human Anatomy II. (8 lec., 24 lab.)

PTAB 331. Patient Care Procedures. (1). Specific patient care procedures related to physical therapy, inhalation therapy, and nursing are studied. Included are isolation procedures, sterile techniques, emergency situations which may occur in clinical settings, catheterization, respirators, specialized beds, injections, tracheotomies, suctioning, improvised equipment, nutrition, bandaging, and vital signs. (8 lec., 24 lab.)

PTAB 341. Physical Therapy Theory and Practice I. (1). Palpation and manipulation of soft tissue for the purpose of evaluating anatomical structures responsible for restriction of normal range of motion or inhibition of functional activity. Includes basic physiological effects of massage, application of massage techniques and the principles of peripheral joint manipulation. (8 lec., 24 lab.)

PTAB 401. Human Anatomy II. (4). Continuation of Human Anatomy I with emphasis on abdomen, lower extremity, head, and neck. (32 lec., 96 lab.)

PTAB 403. Human Physiology II. (2). Continuation of Human Physiology I and relating to the four major systems with consideration given to skin physiology. Laboratory exercises are coordinated with lectures and emphasize the cardiovascular and pulmonary systems. (16 lec., 48 lab.)

PTAB 405. Pathology. (2). Basic principles in the study of disease and injury with application to the various systems of the body. Includes observation of autopsies and pathological specimens. Lectures are integrated with Human Anatomy and Human Physiology. (32 lec.)

PTAB 406. Neuroanatomy and Neurophysiology. (4). A coordinated presentation of the structure and function of the human nervous system with emphasis on the central nervous system and sensory receptors. Clinical applications are included. Students engage in dissection of the human brain, examine microscopic sections of the brainstem and spinal cord, and experiment with functional aspects of the nervous system. (48 lec., 48 lab.)

Junior Year, Winter Session (4 SHC)

PTAB 300. Human Growth and Development. (3). Characteristics of normal growth and development from fetal life to old age with emphasis on physiological considerations of growth, development, and maturation of the infant and young child. Includes considerations and patterns of abnormal development. (48 lec.)

PTAB 332. Gait Analysis. (1). Introduction to the development of human locomotion, gait cycle description, displacement changes, muscular activity, and floor reaction analysis. Includes qualitative and quantitative measurements and evaluation of normal and selected abnormal gait parameters. Basic elements of gait training are introduced. (8 lec., 24 lab.)

First Aid Course. (0)

Junior Year, Spring Semester (18 SHC)

PTAB 301. Biomechanics and Kinesiology. (3). A detailed study of human motion with emphasis on mechanical and functional aspects. Includes biomechanical measurements, calculations, functional anatomy, and body mechanics under both normal and pathological conditions. (32 lec., 48 lab.)

PTAB 322. Professional Relations II. (2). Continuation of Professional Relations I. Lecture topics include problem oriented medical records and medical systems, professional staff relations, third party payment, home health programs, and state and community health department organizations. Visits to local facilities are scheduled to allow students to begin practice of basic skills. (16 lec., 48 clinic)

PTAB 333. Basic Rehabilitation. (2). Introduction to the multidisciplinary approach of comprehensive care for the handicapped. Included are principles and techniques of gait training, transfers, activities of daily living prescription and use of assistive devices, and wheelchairs. (16 lec., 48 lab.)

PTAB 342. Physical Therapy Theory and Practice II. (2). The study of therapeutic use of ultraviolet energy (actinotherapy), heat (thermotherapy) and cold (cryotherapy) by conduction, convection, radiation, and conversion. Includes physical principles, physiological effects, precautions and rationale for use. (16 lec., 48 lab.)

PTAB 343. Physical Therapy Theory and Practice III. (3). *Part I:* Electrotherapy covers the physics and physiological effects of low frequency alternating and direct currents as applied percutaneously for therapeutic and diagnostic use. (16 lec., 24 lab.) *Part II:* Electromyography, Nerve Conduction Velocity, and Biofeedback include the physiological basis and basic components for electromyographic recording. Laboratory experience in nerve conduction velocity, basic diagnostic EMG measurements and biofeedback is provided. (16 lec., 24 lab.)

PTAB 344. Therapeutic Exercise I. (2). Application of theory of exercise and study of developmental principles for the prevention, recognition, and treatment of physical disabilities. Includes positioning, range of motion exercises, and traditional exercise programs. (16 lec., 48 lab.)

PTAB 350. Clinical Science — Geriatrics. (1). Study of aging characteristics including physical, psychological, and socio-economic aspects with emphasis on a clinical medicine view of symptomatology, diagnostic, and treatment procedures. Includes visitation to a geriatric center. (8 lec., 24 lab.)

PTAB 380. Research and Design I. (1). Discussion of experimental method, literature search techniques, review of basic statistics, data acquisition and reduction tools. Students begin a group research project. (16 lec.)

PTAB 404. Human Physiology III. (2). Study of physiological adaptations to stress within normal and pathological states. Includes concepts of work, exercise, energy expenditure, oxygen debt, and body composition. Emphasis is placed on cardiovascular, musculoskeletal, and respiratory functions related to physical activity, normal growth and development, the aging process, and prevention of illness. (16 lec., 48 lab.)

Junior Year, Summer Clinic (2 SHC)

PTAB 324. Clinical Education I. (2). Three weeks of full-time clinical experience. Opportunity to develop proficiency in therapeutic and evaluative procedures learned in the first academic year. (approximately 105 clinic hours)

Senior Year, Fall Semester (18 SHC)

PTAB 423. Professional Relations III. (1). Introduction to administration and supervision as it applies to the field of physical therapy. Discussion topics include fiscal factors. Compliance surveys by the State Health Department and Federal Inspection Agents as they apply to hospitals, nursing homes and private practice are also discussed. Four visits are made to one local facility during the last four weeks of the semester. (12 lec., 12 clinic)

PTAB 445. Therapeutic Exercise II. (4). Application of neurophysiological and developmental principles to exercise techniques designed to facilitate normal neuromuscular function. Use and contraindications of cold, vibration, compression, traction, and resistance are included. Proprioceptive neuromuscular facilitation techniques along with specific treatment approaches developed by Knott, Bobath, Rood, and Brunnstrom are examined and practiced. (32 lec., 96 lab.)

PTAB 460. Clinical Science — Orthopedics. (4). A review of appropriate basic science followed by medical lectures on the etiology and management of congenital and acquired pathological conditions of the musculoskeletal system. Medical aspects and basic orthopedic principles are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients. (32 lec., 96 lab.)

PTAB 461. Clinical Science — Neurology. (3). A review of appropriate basic science followed by medical lectures on the etiology and management of congenital and acquired pathological conditions of the central and peripheral nervous systems. Medical aspect will be correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients with upper and lower motor neuron lesions. (32 lec., 45 lab.)

PTAB 462. Clinical Science — Amputee/Prosthetics. (2). A review of appropriate basic science followed by medical lectures on the etiology and management of congenital, traumatic and acquired pathological amputation. Medical aspect will be correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients. (16 lec., 48 lab.)

PTAB 463. Clinical Science — Skeletal Muscle Disorders. (1). A review of appropriate basic science followed by medical lectures on the etiology and management of congenital and acquired pathological conditions of skeletal muscles. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients. (8 lec., 24 lab.)

PTAB 464. Clinical Science — Respiratory Disorders and Rheumatology. (1). *Part I — Respiratory Disorders:* A review of appropriate basic science followed by medical lectures on the etiology and management of congenital and acquired pathological conditions of the respiratory system. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients. (6 lec., 6 lab.) *Part II — Rheumatology:* A review of appropriate basic science followed by medical lectures on the etiology and management of rheumatological conditions. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients. (6 lec., 6 lab.)

PTAB 465. Clinical Science — Cardiovascular Disorders. (1). A review of appropriate basic science followed by medical lectures on the etiology and management of congenital and acquired pathological conditions of the cardiovascular system. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of cardiac patients. (14 lec., 6 lab.)

PTAB 481. Research and Design II. (1). Continuation of Research and Design I. Essentials of a research proposal, data acquisition, data reduction, data analysis and the pilot study are covered. Students will continue the group research project begun in Research and Design I. (16 lec.)

Senior Year, Winter Session (4 SHC)

PTAB 425. Clinical Education II. (4). The first senior full-time clinic lasts for six weeks — from January to mid-February. Students are responsible for patient evaluation, assessment, treatment, program planning and coordination of patient care with other existing programs. Hours are determined by the clinic and may vary between 35-40 per week.

Senior Year, Spring Semester (10-12 SHC)

PTAB 426. Clinical Education III. (4). The second senior full-time clinic lasts for six weeks — from mid-February through March. Student responsibilities are the same as in Clinical Education II.

PTAB 451. Clinical Science — Psychiatry. (2). A review of appropriate basic science followed by medical lectures on the etiology and management of psychological and psychiatric problems. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients with psychological manifestations. (24 lec., 6 lab.)

PTAB 452. Clinical Science — Dermatology/Burns. (1). A review of appropriate basic science followed by medical lectures on problems involving the skin with special emphasis on burns. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of patients with various types of burns. (11 lec., 12 lab.)

PTAB 466. Clinical Science — Ob/Gyn and Pediatrics. (1). *Part I — Ob/Gyn:* A review of appropriate basic science followed by medical lectures on prevention and remediations of musculoskeletal, respiratory and other medical problems of pregnancy. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of the pre- and post-parturition patient. (6 lec., 6 lab.) *Part II — Pediatrics:* A review of appropriate basic science followed by medical lectures on growth, developmental anomalies, congenital and acquired musculoskeletal, respiratory and other medical problems of the pediatric patient. Medical aspects are correlated with a physical therapy problem-solving approach to the evaluation, program planning and treatment of the pediatric patient. (6 lec., 6 lab.)

PTAB 482. Research and Design III. (1). Continuation of Research and Design II. Essentials of a research report, including journal format and oral presentations at scientific meetings, are covered. Group research projects are to be completed and presented to the faculty. (16 lec.)

PTAB 488. Special Topics in Physical Therapy. (1-3). Lecture/laboratory demonstrations on topics presented by specialists in given areas and/or a problem-solving experience which is commensurate with student's interest and ability. Topics presented and number of credits are to be arranged by the department chairman. Open to special students as well as senior physical therapy students. (One special topics course is required).

Summer After Senior Year (4 SHC)

PTAB 427. Clinical Education IV. (4). Third senior full-time clinic. Student has the option of going for six or eight weeks beginning the first part of June. The extension of eight weeks would be by mutual desire and consent of student and clinic. Student is expected to function on the level of a staff physical therapist by this time and be capable of providing total comprehensive physical therapy care.

FACULTY

Chairman

Hardiman, Clarence W., Associate Professor, BS, University of Florida, 1949; Certificate in Physical Therapy, Duke University, 1950; MS, Florida State University, 1954; PhD, 1964; LPT.

Associate Professor

Hobart, Donald J., BS, Western Maryland College, 1962; MA, University of Maryland, 1967; PhD, 1972.

Jurf, Amin N., BS, Western Maryland College, 1959; PhD, University of Maryland, 1966.

Latimer, Ruth M., BS, University of Richmond, 1945; Certificate in Physical Therapy, U.S. Army Hospital, 1946; MS, Medical College of Virginia, 1952; MEd, University of Maryland, 1973, LPT.

Assistant Professor

Alon, Gad, Certificate in Physical Therapy, Wingate Institute, 1968; MS, University of Maryland, 1972; LPT.

Jackson, Osa, BS and Certificate in Physical Therapy, University of Michigan, 1972; MA, 1973; PhD, 1978; RPT.

Iglarsh, Z. Annette, BS, City College of New York, 1970; MAT, Alaska Methodist University, 1972; BS, Upstate Medical Center - SUNY, 1975; LPT.

Little, R. Roger, BS, University of Maryland, 1964; MD, University of Maryland, 1968.*

Rosenzweig, Daphne, BA, University of California, 1964; Certificate in Physical Therapy, 1965; MS, 1969; LPT.

Teets, R. Scott, BS, West Virginia University, 1969; Certificate in Physical Therapy, University of Pittsburgh, 1970; MEd, West Chester State College, 1972; LPT.

Instructor

Danoff, Jerome, BS, Johns Hopkins University, 1968; MS, Pennsylvania State University, 1972; PhD, University of Maryland, 1977.*

DeWitt, Heather, BS, University of Southern California, 1972; LPT.

Violand, Richard L., Jr., BS, Ohio State University, 1968; BS, University of Washington, 1974; LPT.

Williams, Janice, BS, University of Pittsburgh, 1977.

**part-time faculty*

University of Maryland School of Medicine

Department of Physical Therapy

32 South Greene Street

Baltimore, Maryland 21201

(301) 528-7720, 7721

RADIOLOGIC TECHNOLOGY PROGRAM



THE PROGRAM

The four-year program in radiologic technology, under the School of Medicine at the University of Maryland, leads to a Bachelor of Science degree, and is fully approved by the American Medical Association's Council on Medical Education. Graduates of this program are eligible to take the national examination for certification as a registered technologist (R.T., A.R.R.T.) given by the American Registry of Radiologic Technologist.

Graduates of the program are employed in radiologic technology education, radiation safety, radiology administration, clinical and special procedure technology and commercial radiology. All of the graduates have become certified by the A.R.R.T., scoring in the upper 1% of all candidates on a national level and 20% of the graduates have pursued graduate education.

ADMISSION

Since the Baltimore Campus of the University of Maryland only offers professional courses and programs, the first two undergraduate years must be completed on another University of Maryland campus (UMCP, UMBC, UMES, or UMUC) or other accredited two or four year colleges for the preprofessional courses. Students may apply for advancement or admission to the professional portion of the program after a minimum of three semesters of preprofessional work with a cumulative GPA of 2.5. Application should be made no later than June 1st for the class entering in the Fall. Fifteen to 20 students are admitted each Fall.



PREPROFESSIONAL (Freshman/Sophomore) REQUIREMENTS

English Composition.....	3 credits
Biology/Zoology.....	8 credits
(Human Anatomy and Physiology are highly recommended)	
Chemistry.....	8 credits
(Should include Inorganic with lab and Organic with lab)	
Physics.....	8 credits
Math'.....	6 credits
(Statistics is required)	
Behavioral and Social Sciences.....	12 credits
One psychology and one sociology course are required. Other courses can be selected from: economics, philosophy, Afro-American studies, anthropology, urban studies or additional psychology.	
Speech.....	3 credits
Additional electives.....	12 credits
* It is suggested that the student meet with an advisor (see below) as early as possible to select electives.	
UMBC — Mr. Michael Walter.....	528-6272
UMCP — Ms. Cynthia Rice.....	528-6272
UMES — Ms. Betty Arrieta.....	528-6272
All transfer students — Ms. Betty Arrieta.....	528-6272

APPLICATION AND ADMISSION PROCEDURE

Although the Radiologic Technology Program is small, the administration actively strives to achieve a diversity among its students; therefore, no exclusion/limitation is made based on sex, age, race, citizenship, handicap, residence, or any other nonacademic criterion. Admission is based primarily on completion of preprofessional requirements and the student's GPA. The Division of Radiologic Technology uses the interview process only as a medium of advisement, not selection; but, the division feels that an applicant would benefit by an opportunity to discuss his/her academic background and to see the facility at the University of Maryland Hospital on the UMAB campus.

Applications can be obtained from:

University of Maryland at Baltimore
Office of Admissions and Registrations
660 W. Redwood Street
Baltimore, Maryland 21201

OR

Room 215, Allied Health Professions Building
University of Maryland
Division of Radiologic Technology
32 S. Greene Street
Baltimore, Maryland 21201

HOUSING

For information contact the Director of Housing, University of Maryland at Baltimore, 621 W. Lombard Street, Baltimore, Maryland 21201.

FINANCIAL AID

For information contact the Office of Financial Aid, University of Maryland at Baltimore, Room 201 East Hall, 520 W. Lombard Street, Baltimore, Maryland 21201.

PROFESSIONAL PROGRAM

Approximately one-half of the students' time at the UMAB campus will be spent in clinical education, i.e., obtaining clinical experience in the broad field of radiology including: general diagnostic radiology, fluoroscopy, special procedures, radiography, mammography, ultrasound, computerized axial tomography, shock trauma, operating room radiography, nuclear medicine, pediatric radiography, and radiotherapy, etc. The University of Maryland Hospital serves as the primary resource for the clinical education portion of the curriculum.

	Fall	Spring	Summer
<i>Junior year required courses</i>	MDRT 300	MDRT 330	MDRT 340
	MDRT 310	MDRT 332	MDRT 345
	MDRT 311	MDRT 333	
	MDRT 314	MDRT 334	
	MDRT 315	MDRT 335	
<i>Senior year required courses</i>	MDRT 360	MDRT 370	
	MDRT 362		
	MDRT 364	MDRT 375	
	MDRT 365	Electives:	
	Electives:	374, 376	
	366, 367	384, 385	
		386, 388	

Winter Mini-course Electives: MDRT 368, 371, 372, 378, 389

All professional elective courses must be chosen with division approval to complete one of the three areas of specialization: administration, education, or radiologic sciences.



UNDERGRADUATE MEDICAL PROGRAM

MDRT 300. Effective Interaction in Allied Health (3). Using discussions, lectures, and demonstrations, the nature, objectives and outcome of interpersonal interactions are emphasized. Major approaches include transactional analysis, communications theory and medical sociology. Also included in the course are the history and development of group medical ethics, medico-legal situations, and health care delivery systems.

MDRT 310. Human Anatomy and Physiology via Imaging (5). The study of human anatomy is approached as visualized through a number of imaging techniques used in radiology, although emphasis is placed on normal structures as demonstrated on the radiograph. Anatomy labs are included using a "viewbox" teaching technique. The study of human physiology emphasizes physiological processes essential to imaging procedures.

MDRT 311. Physics of Diagnostic Radiology (4). This course is the first of a sequence of courses in radiological physics, in which the major emphasis is placed on understanding the theoretical framework of radiological science in diagnostic radiology. The course includes the nature, production, measurement, and attenuation of radiation. In addition, the students are presented with an overview of the imaging process, including: circuitry, equipment, and sensitometry.

MDRT 314. Procedures I (4). The course includes medical terminology and nursing procedures common to radiology, basic and advanced principles and methods of radiography of the skeletal system (excluding cranium) and torso. In addition to developing psycho-motor skills, the student will evaluate the radiograph for quality and be able to recommend supplementary views based on the radiographic findings and pathology suspected. The course will include lectures, demonstrations, labs and programmed instruction.

MDRT 315. Clinical Education I (2). The student will complete specific clinical objectives in the areas of routine and advanced radiography of the chest, abdomen, and the osseous system by supervised clinical experience of 20 hours per week in the Department of Radiology. One hour per week is used as a seminar in which the students will learn to critique their films for proper positioning, technique, and patient protection.

MDRT 330. Radiobiology (3). A nonlaboratory presentation of the basic principles of radiobiology including: radiochemistry, cellular effects, radiation genetics, differential factors modifying cell sensitivity, effects on tissues and organs, systems and man. Throughout the course, radiobiologic principles will be applied to the fields of radiation safety, radiotherapy, radiodiagnosis, and nuclear medicine. Research is presented which provides evidence (laboratory and epidemiological) used in the evaluation of radiation risks and hazards.

MDRT 332. Imaging Principles (5). This course is second in the sequence of radiological physics courses, in which the major emphasis is on the imaging process itself, and how to produce an image which will convey to the radiologist maximum diagnostic information. Therefore, the course will include an in-depth treatment of sensitometric principles and imaging parameters affecting the ability of the medium to record data with minimum information loss. The student will perform experimentation to demonstrate and apply theoretical principles.

MDRT 333. Pathology (3). The course includes the nature and etiology of disease, and major pathological processes. Stress is placed on medical and surgical diseases and their major radiographic manifestations. The "viewbox" teaching techniques will be employed to stress abnormal from normal variants in human anatomy.

MDRT 334. Procedures II (3). One half of the course covers basic and advanced methods of radiography of the cranium, including dental radiographic techniques, critical evaluation and identification of radiographs of the skull, face and mastoids with lab demonstrations and practice. The other portion of the course is devoted to the study of the fluoroscopic and urinary procedures and pediatric radiography.

MDRT 335. Clinical Education II (2). The student will complete specific clinical objectives in the areas of routine and advanced radiography of the skull (including dental radiography), pediatric radiography and fluoroscopic and urinary procedures by supervised clinical experience of 20 hours per week in the Department of Radiology. One hour per week is used as a seminar in which the students will critique their films for proper positioning, technique, and patient protection.

MDRT 340. Physics and Clinical Uses of Nuclear Medicine and Therapy (3). An introduction to the basic physics of nuclear medicine and radiotherapy, including properties of radiopharmaceuticals, and radionuclides, treatment planning, instrumentation and equipment. The course also includes an overview of the clinical uses and goals of radiotherapy and nuclear medicine, appropriate for the diagnostic technologist. In addition to lectures and labs, the student will observe in the nuclear medicine and radiotherapy departments to better appreciate theoretical principles.

MDRT 345. Clinical Education III (2). The student gains additional clinical experience of 30 hours per week for eight weeks in the areas covered in the preceding semesters in MDRT 315 and 335. The objectives of this experience are to develop higher levels of clinical skill, increased accuracy and speed, with greater independence and responsibility. Supervision is maintained, but is more indirect, allowing the student to assume a more active role in the management of the radiographic examination in addition to its execution. There will also be a weekly seminar.

MDRT 360. Radiation Health (3). This course stresses the reduction of radiation exposure to both patients and personnel in radiology and nuclear medicine by protective procedures, the understanding and use of federal and state regulations/guidelines, and the proper execution of radiation survey procedures. As a major course objective, the student will perform radiation surveys designed to meet or exceed federal and state guidelines.

MDRT 362. Image Analysis (4). This course is the third in a sequence of radiological physics courses in which the major emphasis is on the tests and methods used to quantitatively analyze the sensitometric properties of the film, and its ability to record information without significant loss. Through experimentation projects, the student will analyze various recording systems, and will set up a quality control program.

MDRT 364. Special Procedures in Radiology (4). A survey of all specialized procedures in current use in radiology, including new modalities, covers: indications, correlative anatomy, techniques employed, equipment and equipment analysis, contraindications and limitations.

MDRT 365. Clinical Education IV (2). The student will complete specific clinical objectives in the area of special radiographic procedures, including: neuroradiography, angiography, tomography (computerized and non-computerized), ultrasonography, mammography, etc. In addition, the student may elect to obtain clinical experience in nuclear medicine and/or radiotherapy. One hour per week is spent in seminar in which the student will present case studies. In addition, the student will be required to attend specialized conferences.

MDRT 366. Techniques of Management and Supervision (3). Using a lecture-discussion approach, the course covers an overview of management functions, emphasizing those techniques appropriate for the management and supervision in the Department of Radiology. Stress is also placed on human relations, management by objectives, and leadership training.

MDRT 367. Instructional Design and Implementation (3). Throughout the course, emphasis is placed on the development of skills basic to teaching: task analysis, set induction, preparing objectives, course syllabus, unit and lesson plans. In addition, the student will utilize and evaluate the skills developed using a number of teaching methods via peer-teaching and follow-up analysis.

MDRT 368. Special Topics in Radiological Sciences (1-3). More advanced study of one or more topics in the radiological sciences — radiation safety, equipment performance, recording systems, information and image analysis, etc. The emphasis and topics treated will vary each year depending on the interests of the instructor and student. The course, therefore, may be taken more than once for credit.

MDRT 370. General Review for Certification (3). The goal of this course is to prepare the student for the national certification examination by the American Registry of Radiologic Technologists by review through lecture, programmed instruction and frequent testing.

MDRT 371. Medical Economics (2). A basic introduction to the economic analysis of health care systems in the United States, and the discussion of various methods of financing health care.

MDRT 372. Audiovisual Education (2). The goals of the course are to introduce the student to the wide range of audiovisual media appropriate for allied health education, and development of skills needed to design, produce, and evaluate various kinds of instructional materials.

MDRT 373. Radiation Epidemiology (2). This course will provide an introduction to the methods of epidemiological surveys. Prospective and retrospective studies in radiation epidemiological research are viewed in order to correlate low-level radiation doses with somatic and genetic effects.

MDRT 374. Communication in Radiological Sciences (3). This course is designed for students specializing in education or administration. The course objective is to develop the communications ability of the student verbally, both in written and oral form. The student will develop those skills necessary for writing grants and other formal proposals, specifications, and articles for scientific or professional journals. Oral communication skills will stress interviewing techniques appropriate for managers and school personnel.

MDRT 375. Clinical Education V (2). This is a continuation of MDRT 365. The student will complete specific clinical objectives in the area of special radiographic procedures and, if elected, nuclear medicine and radiotherapy which have not been completed in the preceding fall. Seminars and conferences will be continued.

MDRT 376. Nonionizing and New Imaging Modalities (3). This course includes the physics, instrumentation, equipment and clinical uses of: ultrasonography, thermography, computerized axial tomography, xerography, electron radiography, and other recent advances in imaging techniques of radiology.

MDRT 378. Special Topics in Imaging Procedures (1-2). In-depth treatment of one or more of the following imaging procedures: body section radiography, mammography, neuroradiography, vascular radiography, procedures in nuclear medicine, and ultrasonography. The emphasis and topics treated will vary each year depending on the interests of the instructor and student. Therefore, the course may be taken more than once for credit.

MDRT 384. Educational Tests and Measurements (3). The course includes problems in measurement, teacher use and interpretation of standardized tests, the design of teacher-made tests, the evaluation and use of test data and grading procedures.

MDRT 385. Departmental Organization and Design (4). This course includes an introduction to the principles of organizational structure and functioning applied to hospitals and departments of radiology. Analysis of the organization is stressed using managerial analysis techniques including work measurement, work study, flow charting and departmental survey techniques to determine the adequacy of the physical plant and staffing requirements. The student will perform a work study and/or do a departmental survey and redesign.

MDRT 386. Program and Curriculum Design (4). Design, organization and administration of radiologic technology programs at both the certificate and college level which will meet the AMA recommendations and essentials. As a major course project, the student will write a curriculum proposal and complete a program self-study at either the AA or BS level, which complies with essentials and recommendations.

MDRT 387. Research in Radiological Sciences (4). The course covers basic principles of research design, methods of research, evaluation of research data, plus critique of research methods described in professional journals. The student must design an original research project in the radiological sciences or in educational or management research, in addition to writing critiques.

MDRT 389. Field Experiences in Specialization (2). This course will be available to selected students to give them the opportunity to get practical experience in the area of specialization (education, administration, or radiological sciences). The specific objectives of the field experience will be set cooperatively by the field site supervisor, the student, and the student's faculty advisor selected by the department. This course may be taken more than once to gain experience in more than one area of specialization, or to develop advanced skills in one specific area.

FACULTY

Arrieta, Beatriz P., Education Coordinator and Instructor

BA, St. Theresa's College, Manila, Philippines; RT, University of Maryland.

McCargo, Julia W., Clinical Supervisor

RT, University of Maryland Hospital.

Rice, Cynthia, Instructor

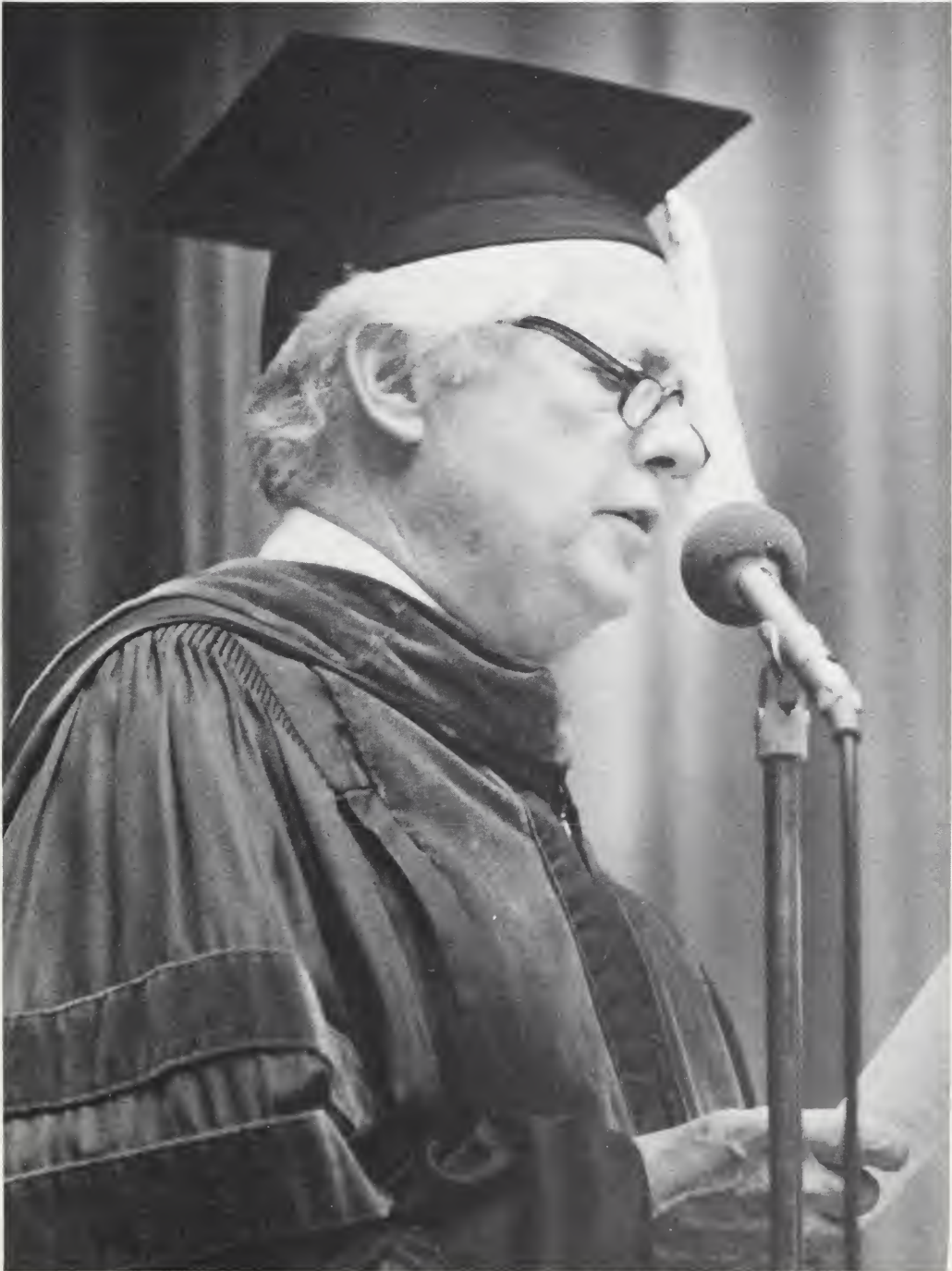
BS, RT, University of Maryland School of Medicine; BS, Agricultural and Technical University of Greensboro, North Carolina.

Walter, Michael, Instructor

BS, RT, University of Maryland School of Medicine.

Warner, Sandra L., Program Director and Assistant Professor

RT, Mercy Hospital, Baltimore; BS and MA, Towson State College; JD, University of Maryland.



BOARD OF REGENTS

Mr. Peter F. O'Malley, *Chairman*, 1985

The Honorable Joseph D. Tydings, *Vice Chairman*, 1984

Mr. Percy M. Chaimson, *Secretary*, 1981

Mr. A. Paul Moss, *Treasurer*, 1983

Mrs. Mary H. Broadwater, *Assistant Secretary*, 1983

Mr. George W. Wilson, Jr., *Assistant Treasurer*, 1981

The Hon. Wayne A. Cawley, Jr., *Ex-officio*

Mr. Ralph W. Frey, 1981

Dr. Samuel H. Hoover, 1982

The Honorable Blair Lee, III, 1985

Mr. Allen L. Schwait, 1984

Mrs. Constance C. Stuart, 1985

Mr. Wilbur G. Valentine, 1982

Mrs. Jennifer A. Walker, 1981

Mr. John W. T. Webb, 1985

UNIVERSITY OF MARYLAND CENTRAL ADMINISTRATION

President

John S. Toll, BS, Yale University, 1944; AM, Princeton University, 1948; PhD, 1952.

Executive Vice President

Albin O. Kuhn, BS, University of Maryland, 1938; MS, 1939; PhD, 1948.

Vice President for Academic Affairs

David Adamany, AB, Harvard College, 1958; JD, Harvard Law School, 1961; MS, University of Wisconsin, 1963; PhD, 1967.

Vice President for General Administration

Warren W. Brandt, BS, Michigan State University, 1944; PhD, University of Illinois, 1949.

Vice President for Agricultural Affairs and Legislative Relations

Frank L. Bentz, Jr., BS, University of Maryland, 1942; PhD, 1952.

Vice President for Graduate Studies and Research

David S. Sparks, BA, Grinnell College, Iowa, 1944; MA, University of Chicago, 1945; PhD, 1951.

Vice President for University Development

Robert G. Smith, BS, State University of New York at Genesco, 1952; MA, Ohio University, 1956.

UNIVERSITY OF MARYLAND AT BALTIMORE PRINCIPAL ACADEMIC OFFICERS

Dean, Dental School

Errol L. Reese, BS, Fairmount State College, 1960; MS, University of Detroit, 1968; DDS, University of West Virginia, 1963.

Dean, School of Law

Michael J. Kelly, BS, Princeton University, 1959; PhD, Cambridge University, 1964; LLB, Yale Law School, 1967.

Dean, School of Medicine

John M. Dennis, BS, University of Maryland, 1943; MD, 1945.

Dean, School of Nursing

Nan B. Hechenberger, BS, Villanova University, 1956; MS, The Catholic University of America, 1959; PhD, 1974; (RN).

Dean, School of Pharmacy

William J. Kinnard, Jr., BS, University of Pittsburgh, 1953; MS, 1955; PhD, Purdue University, 1957.

Dean, School of Social Work and Community Planning

Ruth H. Young, AB, Wellesley College, 1944; MSSW, The Catholic University of America, 1949; DSW, 1965.

Acting Dean, Graduate and Interprofessional Studies and Research

Rosslyn W. I. Kessel, MBBS, University College Hospital, Medical School, London, 1955; PhD, Rutgers University, 1960.

UNIVERSITY OF MARYLAND AT BALTIMORE**Chancellor**

Albin O. Kuhn, BS, University of Maryland, 1938; MS, 1939; PhD, 1948.

Vice Chancellor for Health Affairs

John M. Dennis, BS, University of Maryland, 1943; MD, 1945.

Assistant to the Chancellor

Roy Borom, BA, Wooster College, 1949; MSSA, Western Reserve University School of Applied Social Sciences, 1951.

Director of Admissions and Registrations

Wayne A. Smith, BS, University of Maryland, 1962.

Director of Business Services

Robert C. Brown, BA, University of Maryland, 1963.

Director of Health Sciences Computer Center

Donn Lewis, BS, University of Maryland, 1973; MBA, 1976.

Director of Personnel

Ronald J. Baril, BSEd, Bridgewater State College, Massachusetts, 1965.

Director of Physical Plant

Robert L. Walton, BS, University of Maryland, 1938.

Director of Student Financial Aid

James H. Nolan, BS, University of Wisconsin-Madison, 1965.

Director of Student Health Service

Wilfred H. Townshend, BA, Johns Hopkins University, 1936; MD, University of Maryland, 1940.

Director of University of Maryland Hospital

G. Bruce McFadden, BS, Virginia Polytechnic Institute, 1957; MHA, Medical College of Virginia, 1961.

Director of University Relations

Louise M. White, AB, Randolph-Macon Woman's College, 1959; MLA, Johns Hopkins University, 1965.

Librarian, Health Sciences Library

Cyril C. H. Feng, BA, Tamkang College, Taiwan, 1961; MS, University of Kentucky, 1965.

SCHOOL OF MEDICINE ADMINISTRATION

Dean

John M. Dennis, BS, University of Maryland, 1943; MD, 1945.

Associate Dean for Admissions

Willard M. Allen, BS, Hobart College, 1926; MS, University of Rochester, 1929; MD, 1932.

Associate Dean for Clinical Affairs

John D. Young, Jr., BA, Bridgewater College, 1938; MD, University of Maryland, 1941.

Associate Dean for Governmental Liaison

Frederick J. Ramsay, BS, Washington and Lee University, 1958; MS, University of Illinois, 1960; PhD, 1962; MEd, 1969

Associate Dean for Medical Education and Special Programs

Murray M. Kappelman, BS, University of Maryland, 1951; MD, 1955.

Assistant Dean for Continuing Medical Education

Jack L. Mason, BS, Mansfield State College, 1960; MEd, Pennsylvania State University, 1961; PhD, Syracuse University, 1969.

Assistant Dean for Fiscal Affairs

Gregory F. Handlir, BS, Loyola College, Baltimore, 1969; MBA, 1973.

Associate Dean for Student Affairs

Bernice Sigman, MD, University of Maryland, 1960; MS, Washington University, 1966.

Assistant Deans for Student Affairs

Robert L. Harrell, Jr., BS, Hampton Institute, 1961; PhD, Iowa State University, 1966.

Herbert L. Muncie, BS, University of Georgia, 1968; MD, Medical College of Georgia, 1971.

S. Michael Plaut, BA, Adelphi University, 1965 PhD, University of Rochester, 1968.

Gary D. Plotnick, AB, Johns Hopkins University, 1962; MD, University of Maryland, 1966.

FACULTY ROSTER

As of July 1, 1980



ANATOMY

- Anderson, Larry D.**, Assistant Professor (gross anatomy)
BS, Oakland University, 1970; MS, Wayne State University, 1973; PhD, 1976.
- Barrett, Charles P.**, Associate Professor (gross anatomy)
BS, King's College, 1957; PhD, University of Maryland, 1969.
- Bulmash, Melvin**, Assistant Professor
BA, Johns Hopkins University, 1946; DDS, University of Maryland, 1950; MS, 1969.
- Donati, Edward J.**, Associate Professor
BA, King's College, 1951; PhD, University of Maryland, 1964.
- Gearhart, John D.**, Assistant Professor
BS, Pennsylvania State University, 1964; MS, University of New Hampshire, 1966; PhD, Cornell University, 1970.
- Guth, Lloyd**, Professor and Chairman
BA, New York University, 1949; MD, 1953.
- Hall-Craggs, E.C.B.**, Professor and Head, Division of Gross Anatomy
BA, Cambridge University, 1947; MB, B.Chir., 1949; MA, 1959; PhD, London, University College, 1965.
- Hirshfield, Anne N.**, Assistant Professor (gross anatomy)
BA, Swarthmore College, 1970; MS, University of Michigan, 1973; PhD, 1976.
- Markelonis, George J.**, Research Assistant Professor (gross anatomy)
BS, University of Maryland, 1969; MS, Villanova University, 1972; PhD, University of Maryland, 1976.
- Mech, Karl F., Sr.**, Associate Professor (gross anatomy)
BS, University of Maryland, 1932; MD, 1935.
- Oh, Tae H.**, Associate Professor
BS, Seoul National University, 1966; MS, University of Saskatchewan, Canada, 1970; PhD, 1973.
- Oster-Granite, Mary Lou**, Assistant Professor (gross anatomy)
BA, University of Rochester, 1969; PhD, Johns Hopkins University, 1974.
- Pumplin, David W.**, Assistant Professor (gross anatomy)
BS, Michigan State University, 1963; PhD, University of Illinois, 1973.
- Rees, Rosemary P.**, Assistant Professor (gross anatomy)
BSc, University of Sidney, 1967; PhD, Washington University, 1975.
- Reier, Paul J.**, Associate Professor
BS, Cleveland State University, 1968; PhD, Case Western Reserve, 1972.
- Rennels, Marshall L.**, Professor
BS, Eastern Illinois University, 1961; MA, University of Texas Medical Branch, 1964; PhD, 1966.
- Richardson, K.C.**, Professor
BS, University of Western Australia, 1926; MS, 1927.
- Schulter-Ellis, Frances P.**, Assistant Professor (gross anatomy)
BS, Birmingham Southern College, 1952; MS, Emory University, 1954; PhD, George Washington University, 1971.
- Shear, Charles R.**, Associate Professor
BS, University of Illinois, 1965; MA, Columbia University, 1967; PhD, 1969.
- Strum, Judy M.**, Associate Professor
BS, University of Washington, 1963; PhD, 1968.
- Young, M. Wharton**, Professor (gross anatomy)
BS, Howard University, 1926; MD, 1930; PhD, University of Michigan, 1934.
- Zalewski, Andrew A.**, Associate Professor
BA, University of Maryland, 1962; MD, University of Maryland, 1966.

ANESTHESIOLOGY

- Ashman, Michael N.**, Assistant Professor
BA, Johns Hopkins University, 1960; MD, University of Maryland, 1964.
- Chodoff, Peter**, Clinical Professor
BS, Temple University, 1947; MD, Jefferson Medical College, 1951.
- Cohen, Susan M.**, Assistant Professor
MD, University of Maryland, 1971.
- Del Rosario, Romeo S.**, Assistant Professor
MD, Manila Central University, Philippines, 1958.
- Glassman, Lionel**, Clinical Associate Professor
MD, University of Toronto, 1945.
- Goldman, Edwin J.**, Assistant Professor
BS, University of New Brunswick, 1956; MD, Dalhousie University, 1960.

- Hasnain, Jawad U.**, Instructor
MB, BS, King Edward Medical College, Pakistan, 1973.
- Helrich, Martin**, Professor and Chairman
BS, Dickinson College, 1946; MD, University of Pennsylvania, 1946.
- Horwits, Gwynne L.**, Assistant Professor
AB, Oberlin College, 1967; MD, University of Maryland, 1971.
- Joseph, Samuel I.**, Professor
AB, DePauw University, 1939; MS, New York University, 1941; PhD, 1943; MD, Wayne University, 1947.
- Kalish, Murray A.**, Clinical Instructor
MD, University of Maryland, 1973.
- Kaplow, Sheppard**, Clinical Assistant Professor
MD, Dalhousie University, 1959.
- Keller, Melvin L.**, Clinical Assistant Professor
BS, University of Illinois, 1945; DDS, University of Detroit, 1948; MD, University of Amsterdam, 1955.
- Krishnaprasad, Deepika**, Clinical Instructor
MB, BS, B. J. Medical College, India, 1969.
- Lee, Chul J.**, Instructor
MD, Seoul National University, 1972.
- Liteanu, Michael**, Clinical Assistant Professor
MD, Free University of Brussels, 1949.
- Mackenzie, Colin F.**, Associate Professor
MB, ChB, University of Aberdeen, 1968.
- Margand, Peter M. S.**, Clinical Associate Professor
BA, Trinity College, Cambridge, 1954; MB, BCh, Westminster Hospital Medical School, 1957.
- Matjasko-Chiu, M. Jane**, Associate Professor
BA, Mercyhurst College, 1964; MD, Medical College of Pennsylvania, 1968.
- McAslan, T. Crawford**, Clinical Professor
MB, ChB, University of Glasgow, 1945.
- McCormack, Frank D.**, Clinical Instructor
MD, University of El Salvador, 1970.
- Mostello, Lucille A.**, Assistant Professor
BA, Seton Hill College, 1966; MD, Johns Hopkins University, 1970.
- Parelhoff, Merrill E.**, Clinical Assistant Professor
BS, University of Maryland, 1944; MD, 1949.
- Penafiel, Mario L.**, Assistant Professor
- Selvin, Beatrice L.**, Associate Professor
BA, University of Michigan, 1942; MD, New York Medical College, 1945.
- Shin, Baekhyo**, Associate Professor
College of Arts and Sciences, Korea, 1961; MD, College of Medicine, Korea, 1965.
- Stene, John K.**, Clinical Assistant Professor
BA, Hanover College, 1968; MD, Johns Hopkins University, 1973; PhD, 1974.
- Thomas, Padmini**, Clinical Assistant Professor
MB, BS, Christian Medical College, India, 1966.
- Yannakakis, Zoena**, Clinical Assistant Professor
MD, Dalhousie Medical School, Canada, 1962.

BIOLOGICAL CHEMISTRY

- Abd El Fattah, Anwar S.**, Research Associate
PhD, Mississippi State University, 1979.
- Ambudkar, Indu S.**, Research Associate
MSc, Lucknow University, India, 1975; PhD, Madurai Kamaraj University, 1979.
- Ambudkar, Suresh V.**, Research Associate
MSc, Shiraji University, India, 1974; PhD, Madurai Kamaraj University, 1978.
- Banerjee, Dipak K.**, Research Associate
MSc, University of Calcutta, 1968; PhD, 1976.
- Black, Lindsay W.**, Associate Professor
BS, University of Chicago, 1962; PhD, Stanford University School of Medicine, 1967.
- Bond, Sheila B.**, Research Associate
MS, George Washington University, 1971; PhD, 1976.
- Bucci, Clara F.**, Research Associate Professor
MC, Liceo Volpicelli, Italy, 1951; MS, University of Rome, 1956; PhD, 1964.

Bucci, Enrico, Professor

MC, Liceo Mamiani, Italy, 1950; MD, University of Rome, 1956; PhD, 1965.

Cheng, Wood-Hi, Research Associate

BS, Tamkang College, 1968; MS, National Tsing Hua University, 1970; PhD, Oklahoma State University, 1978.

Eby, Denise, Research Associate

BS, Saint Joseph College, 1939; MS, Catholic University, 1953; PhD, University of Maryland, 1970.

Frank, Leonard H., Professor

BA, University of Oklahoma, 1950; PhD, Johns Hopkins University, 1957.

Herrmann, Tom R., Research Associate

MA, University of Oregon, 1974; PhD, 1978.

Kanazawa, Hiroshi, Visiting Assistant Professor

BS, University of Tokyo, 1971; PhD, 1976.

Kirtley, Mary E., Professor

BA, University of Chicago, 1956; MA, Smith College, 1958; PhD, Western Reserve, 1964.

Lakowicz, Joseph, Associate Professor

BA, LaSalle College, 1970; MS, University of Illinois, 1971; PhD, 1973.

Manne, Veeraswamy, Research Associate

MSc, University of Mysore, 1974; PhD, Indian Institute of Science, 1979.

Mani, Uliyar, Research Associate

MSc, University of Mysore, 1969; PhD, University of Madras, 1976.

Padmanabhan, Radhakrishnan, Assistant Professor

BS, Vivekananda College, India, 1960; MS, Presidency College, 1962; PhD, Wayne State University, 1968.

Polakis, Stamatis, E., Assistant Professor

BS, University of Athens, 1958; Oxford University, 1965.

Pomerantz, Seymour H., Professor

BA, Rice Institute, 1948; PhD, University of Texas, 1952.

Ramaswamy, Sengoda G., Research Associate

BDc, Madras University, 1965; MS, 1969; PhD, 1975.

Rosen, Barry P., Associate Professor

BS, Trinity College, 1965; MS, University of Connecticut, 19768; PhD, 1969.

Scher, Malka, Research Associate

AB, Goucher College, 1963; PhD, Johns Hopkins University, 1968.

Shamoo, Adil E., Professor and Chairman

BS, University of Baghdad, 1962; MS, University of Louisville, 1965; PhD, City University of New York, 1969.

Sokolove, Patricia M., Research Associate

AB, Radcliffe College, 1966; AM, Harvard University, 1968; PhD, 1970.

Sorenson, Neil Eric, Research Associate

BA, Andrews University, 1970; PhD, University of Nebraska, 1977.

Tokunaga, Osamu, Research Associate

MD, Kurume University, 1973; PhD, 1977.

Waechter, Charles J., Associate Professor

AA, Baltimore Junior College, 1963; BS, University of Maryland, 1966; PhD, University of Kentucky, 1971.

Walls, Lichun H., Research Associate

MS, Vanderbilt University, 1964; PhD, Tufts University, 1968.

Yaegashi, Tazuko, Research Associate

PhD, Sappora Medical College, Japan, 1977.

Young, Donna L.T.S., Research Associate

PhD, University of Cambridge, 1979.

Zachary, Arthur L., Research Associate

MA, College of William and Mary, 1970; PhD, 1975.

Zlotnik, Gary W., Research Associate

BS, Southhampton College, 1974; PhD, University of Colorado, 1978.

BIOPHYSICS

French, Robert J., Assistant Professor

BSc, University of Adelaide, S. Australia, 1965; PhD, Washington State University, 1973.

Gonzalez-Serratos, Hugo, Professor

BS, Escuela Nacional Preparatoria, 1951; MD, University of Mexico, 1957; MSc, Centro de Investigacion y de Estudios Avanzados del IPN, Mexico, 1963; PhD, London University, 1967.

Hybl, Albert, Associate Professor

BA, Coe College, 1954; PhD, California Institute of Technology, 1961.

Mullins, Lorin J., Professor and Chairman

BS, University of California, 1937; PhD, 1940.

Sjodin, Raymond A., Professor

BS, California Institute of Technology, 1951; PhD, University of California, 1955.

DIAGNOSTIC RADIOLOGY

Angell, Franklin L., Clinical Professor

BS, Virginia Polytechnic Institute, 1941; MD, Medical College of Virginia, 1947.

Arrieta, Beatriz A., Instructor

BA, St. Theresa's College, Manila, Philippines, 1963.

Baker, Leonard P., Instructor

BS, Lehigh University, 1972; MD, University of Maryland, 1976.

Bell, James E., Clinical Associate Professor

BS, Virginia Union University, 1951; MD, Howard University, 1957.

Borrelli, Niel J., Clinical Instructor

AB, Franklin and Marshall University, 1962; MD, New York Medical College, 1968.

Buddemeyer, Edward U., Associate Professor

BA, Gettysburg College, 1955; PhD, Johns Hopkins University, 1968.

Bush, Joseph, Assistant Professor

BS, University of Maryland, 1970; MD, 1974.

Cisternino, Stephan, Assistant Professor

BS, Tufts University, 1970; MD, Northwestern University, 1974.

Diaconis, John N., Professor

BS, University of Maryland, 1955; MD, 1961.

Dinker, Robert E., Clinical Assistant Professor

BS, University of Maryland, 1958; MD, 1963.

Dunne, Morgan G., Assistant Professor

BA, University of Dublin, 1971; MB, 1973.

Feifarek, Christopher, Assistant Professor

BS, University of Maryland, 1971; MD, 1976.

Freedman, Matthew, Associate Professor

AB, University of Rochester, 1963; MD, Downstate Medical Center of Brooklyn, 1967.

Goldman, Stanford M., Clinical Associate Professor

BA, Yeshiva University of New York, 1961; MD, Albert Einstein College of Medicine, New York, 1965.

Goldstein, William Z., Instructor

BA, State University of New York, 1969; MD, University of Brussels, 1976.

Goodman, Lee, Clinical Assistant Professor

AB, Duke University, 1969; MD, University of Maryland, 1973.

Haney, Phillip J., Assistant Professor

BS, Mount St. Mary's College, 1970; MD, New York School of Medicine, 1974.

Houk, Theodore L., Assistant Professor

BS, University of Washington, Seattle, Washington, 1957; PhD, Harvard University, 1967.

Johnston, Gerald S., Professor

BS, University of Pittsburgh, 1952; MD, 1956.

Joseph, Peter, Associate Professor

BS, Lafayette College, 1959; PhD, Harvard University, 1967.

Knipp, Harry C., Instructor

MD, University of Maryland, 1976.

McCrea, Erlinda S., Assistant Professor

AB, Cebu Institute of Technology, Philippines, 1961; MD, 1966.

McNeely, Warren D., Clinical Instructor

BS, Alleghany College of Pennsylvania, 1965; MD, University of Maryland, 1969.

Nilprabhassorn, Prasarn, Clinical Assistant Professor

BS, University of Medical Sciences, Bangkok, 1956; MD, 1960.

Ottesen, Ole E., Assistant Professor

BS, University of Copenhagen, Denmark, 1948; MD, 1956.

Quinlan, James A., Jr., Clinical Assistant Professor

BS, University of Maryland, 1962; MD, 1966.

Rao, Krishna, Associate Professor

CVG, DMS, Kilpauk Medical College of Madras University, India, 1960; MD, 1967.

- Rice, Cynthia E.**, Instructor
BS, Agricultural Technical University, 1973; MS, RT, University of Maryland, 1979.
- Sherman, Michael**, Clinical Instructor
AB, Duke University, 1963; MD, University of Maryland, 1967.
- Siegelman, Stanley S.**, Clinical Professor
AB, Cornell University, 1953; MD, State University of New York College of Medicine, 1957.
- Silverton, George**, Clinical Instructor
BA, Yale University, 1928; MD, University of Maryland, 1932.
- Spitznagle, Larry A.**, Assistant Professor
BS, Perdue University, 1965; MS, 1966; PhD, 1969.
- Vaccaro, Mark**, Instructor
BS, University of Maryland, 1972; MD, 1977.
- Walter, Michael J.**, Instructor
BS, RT, University of Maryland, 1979.
- Warner, Sandra L.**, Assistant Professor
BS, Towson State College, 1971; MA, 1976; JD, University of Maryland, 1979.
- Weiner, Charles I.**, Clinical Assistant Professor
BS, Gettysburg College, 1966; MD, University of Maryland, 1971.
- Whitley, Joseph**, Professor and Chairman
BS, Wake Forest University, 1951; MD, Bowman Gray School of Medicine, 1955.
- Whitley, Nancy O.**, Professor
MD, Bowman Gray School of Medicine, 1957.

EPIDEMIOLOGY AND PREVENTIVE MEDICINE

- Apostolides, Aristide Y.**, Associate Professor
DVM, National Veterinary School of Toulouse, France, 1963; PhD, University of North Carolina, 1970.
- Baker, Susan P.**, Adjunct Assistant Professor
BA, Cornell University, 1951; MPH, Johns Hopkins University, 1968.
- Berger, Kenneth R.**, Assistant Professor
BA, Columbia College, 1964; MD, Johns Hopkins University, 1968; PhD, Brandeis University, 1979.
- Berman, Joseph**, Associate Professor
BA, Clark University, 1957; MD, Tufts University, 1961; MPH, Johns Hopkins University, 1968.
- Black, Robert E.**, Assistant Professor
BA, Cornell University, 1967; MD, Hahnemann Medical College, 1971; MPH, University of California, 1976.
- Booth, Rachel Z.**, Instructor
BSN, University of Maryland, 1968; MS, 1970; PhD, 1978.
- Bridwell, Margaret W.**, Adjunct Assistant Professor
BS, Tulane University, 1943; MD, Louisiana State University Medical Center, 1946.
- Canner, Paul L.**, Professor
BA, University of Minnesota, 1960; MS, 1962; PhD, 1966.
- Chodoff, Peter**, Associate Professor
MD, Jefferson Medical College, 1951; MPH, Johns Hopkins University, 1979.
- Daughaday, David C.**, Associate
BS, Butler University, 1970; MBA, Loyola College, 1970.
- De Hoff, John B.**, Adjunct Assistant Professor
AB, Johns Hopkins University, 1935; MD, 1939; MPH, 1967.
- Dischinger, Patricia C.**, Assistant Professor
BA, Wilson College, 1966; MSPH, University of North Carolina, 1971; PhD, 1974.
- Doub, Nancy H.**, Assistant Professor
AB, University of North Carolina, 1969; MEd, University of Virginia, 1971; PhD, 1973.
- East, Paul**, Adjunct Assistant Professor
LIB, Gray's Inn, London, 1966; LMSSA, University College Hospital, London, 1967; MBBS, and LRCPMRCS, conjoint, 1968; LLM, George Washington University, 1970; MPH, Johns Hopkins University, 1973.
- Entwisle, George**, Professor
BS, University of Massachusetts, 1945; MD, Boston University, 1946.
- Ferencz, Charlotte**, Professor
BS, McGill University, 1944; MD, 1945; MPH, Johns Hopkins University, 1970.
- Fischman, Susan H.**, Assistant Professor
BSN, University of Michigan, 1957; MPH, Johns Hopkins University, 1965; DrPH, 1974; Certificate in Nurse-Midwifery, New York Medical College, 1966.

- Fisher, Marian R.**, Assistant Professor
BS, Case Institute of Technology, 1966; MS, University of Iowa, 1968; PhD, George Washington University, 1972.
- Flynn, James**, Adjunct Assistant Professor
BA, Dublin University, 1960; MD, 1962; MA, 1964; MPH, Johns Hopkins University, 1970.
- Forman, Sandra A.**, Associate
BS, The City College of New York, 1968; MA, Columbia University, 1969.
- Gardner, James F.**, Research Associate
BA, Loyola College, 1974; ScM, Johns Hopkins University, 1979.
- Glasser, David**, Adjunct Assistant Professor
BA, New York University, 1957; MPH, Johns Hopkins University, 1973.
- Graves, Willard L.**, Adjunct Assistant Professor
BS, Drury College, 1962; BES, Johns Hopkins University, 1965; MS, 1967; PhD, 1972.
- Hamill, Peter V. V.**, Professor
BA, University of Michigan, 1947; MD, 1953; MPH, Johns Hopkins University, 1962.
- Hawkins, Barbara L.**, Associate
BS, North Carolina State University, 1962; MS, Johns Hopkins University, 1969.
- Hebel, John R.**, Associate Professor
BS, Virginia Polytechnic Institute, 1962; PhD, 1965.
- Heiner, Jutta D.**, Clinical Associate
MD, Free University of Berlin, 1963.
- Hulbert, Linda L.**, Assistant Professor
BS, Saint Lawrence University, 1968; PhD, Purdue University, 1972.
- Kassel, Leon**, Adjunct Assistant Professor
MD, University of Virginia, 1949.
- Kessler, Irving I.**, Professor and Chairman
AB, New York University, 1952; MA, Harvard University, 1955; MD, Stanford University, 1960; MPH, Columbia University, 1952; DrPH, Harvard University, 1968.
- Klimt, Christian R.**, Professor
MD, University of Vienna, 1944; MPH, Johns Hopkins University, 1952; DrPH, 1959.
- Knatterud, Genell L.**, Professor
BA, Macalester College, 1952; MS, University of Minnesota, 1959; PhD, 1963.
- Kohler, Helen R.**, Assistant Professor
BS, University of Pennsylvania, 1960; MS, University of Minnesota, 1962; PhD, University of North Carolina, 1974.
- Krompholz, Brigita M.**, Assistant Professor
MD, Charles University of Prague, 1957; MPH, Johns Hopkins University, 1975.
- Lamy, Peter P.**, Associate
BSc, pharmacy, Philadelphia College of Pharmacy and Science, 1956; MSc, 1958; PhD, 1964.
- Levine, Myron M.**, Associate Professor
BS, City College of New York, 1963; MD, Medical College of Virginia, 1967; DTPH, London School of Hygiene and Tropical Medicine, 1974.
- Lin, Ruey S.**, Assistant Professor
MPH, Taiwan University, 1968; MD, Heidelberg University, 1970; DrPH, Johns Hopkins University, 1976.
- List, Noel D.**, Clinical Assistant Professor
BA, New York University, 1960; MD, State University of New York, Downstate, 1965; MPH, Harvard University, 1967.
- Mabuchi, Kiyohiko**, Assistant Professor
MD, Osaka University, 1966; DrPH, Johns Hopkins University, 1978.
- Matanoski, Genevieve M.**, Adjunct Associate Professor
BA, Radcliffe College, 1950; MD, Johns Hopkins University, 1955; MPH, 1962; DrPH, 1964.
- McCarter, Robert J.**, Assistant Professor
BA, University of Delaware, 1967; ScD, Johns Hopkins University, 1980.
- McDonnell, Constance M.**, Associate
BA, Duke University, 1955; MMH, Johns Hopkins University, 1977.
- Morton, Richard F.**, Adjunct Associate Professor
BSC, University of London, 1943; MBBS, University of London, Middlesex Hospital, 1953; MPH, University of California, Los Angeles, 1970.
- Pitts, John L.**, Adjunct Assistant Professor
MD, Medical College of Virginia, 1948; MPH, Johns Hopkins University, 1959.
- Prud'Homme, Gerard J.**, Instructor
BA, Johns Hopkins University, 1971; MA, 1973.

- Rubin, Judith D.**, Assistant Professor
AB, Bryn Mawr College, 1964; MD, University of Pennsylvania, 1969; MPH, Johns Hopkins University, 1975.
- Rudert, Eileen E.**, Associate
BA, Carnegie-Mellon University, 1972.
- Sexton, Mary M.**, Associate Professor
BS, University of Alabama, 1956; PhD, Johns Hopkins University, 1970.
- Sherwin, Roger W.**, Professor
BA, Cambridge University, 1953; MA, 1958; MB, BChir, 1958.
- Sorkin, Alan L.**, Adjunct Professor
BA, Johns Hopkins University, 1963; MA, 1964; PhD, 1966.
- Spicer, William S.**, Professor
MD, University of Kansas, 1949.
- Su, Sol**, Instructor
ScD, Johns Hopkins University, 1975.
- Tayback, Matthew**, Professor
AB, Harvard University, 1939; MA, Columbia University, 1940; ScD, Johns Hopkins University, 1953.
- Warschawski, Peter**, Assistant Professor
BA, Johns Hopkins University, 1969; MA, 1973; MEd, 1974; PhD, University of Zurich, 1978.
- White, Benjamin D.**, Adjunct Associate Professor
BA, Furman University, 1941; MD, Medical College of Georgia, 1946; MPH, Johns Hopkins University, 1959.
- Wilson, Phillip D.**, Associate Professor
BA, University of Colorado, 1956; MS, University of Minnesota, 1963; PhD, Johns Hopkins University, 1970.
- Zimmerly, James G.**, Adjunct Assistant Professor
BA, Gannon College, 1962; MD, University of Maryland, 1966; MPH, Johns Hopkins University, 1968; JD, University of Maryland, 1969.

FAMILY MEDICINE

- Alt, Walter J.**, Instructor
BA, University of North Carolina at Chapel Hill, 1971; MD, Tufts University School of Medicine, 1975.
- Baker, Alva S.**, Assistant Professor
AB, Western Maryland College, 1966; MD, University of Maryland, 1970.
- Bianco, Emidio A.**, Assistant Professor
BS, Loyola College, 1950; MD, Georgetown University, 1954.
- Birchess, Damian E.**, Instructor
BS, Loyola College, 1972; MD, University of Maryland, 1976.
- Bronushas, Joseph B.**, Assistant Professor
BS, Loyola College, 1946; MD, University of Maryland, 1950.
- Daniels, Alfred J.**, Clinical Assistant Professor
BS, Fordham College, 1964; MD, Albert Einstein College of Medicine, 1968.
- Davis, LeRoy T.**, Associate Professor
BS, Westminster College, 1948; MS, Syracuse University, 1951; PhD, 1954; MD, New York Medical College, 1961.
- Define, Caroline F.**, Assistant Professor
BS, Magara University, 1963; MD, Medical College of Pennsylvania, 1967.
- Edelstein, Michael V.**, Assistant Professor
BS, University of Maryland, 1967; MD, 1971.
- Guazzo, Eugene**, Assistant Professor
BS, Auburn University, 1952; MS, 1954; MD, Duke University School of Medicine, 1965.
- Guyther, J. Roy**, Associate Professor
BS, University of Maryland, 1941; MD, 1943.
- Hartmann, Peter M.**, Assistant Professor
MD, University of Maryland, 1971.
- Hill, C. Earl**, Associate Professor
BS, Loyola College, 1956; MD, University of Maryland, 1960.
- Hoopes, John M.**, Assistant Professor
BS, Pharmacy, Ohio Northern University, 1970; PharmD, Duquesne University, 1974.
- James, William T.**, Instructor
BS, University of Kansas, 1958.

- Klein, Howard M.**, Assistant Professor
BA, Yeshiva University, 1969; MD, State University of New York, Downstate, Brooklyn, 1973.
- Kowalewski, Edward J.**, Professor and Chairman
BS, Franklin and Marshall College, 1942; MD, George Washington University, 1945.
- Krick, John P.**, Instructor
BA, Saint Meinrod College, 1968; MSW, University of Maryland, 1974.
- Krogh, Christopher L.**, Assistant Professor
BA, University of Wisconsin at Madison, 1970; MD, 1974.
- LaPenta, Michael J.**, Clinical Instructor
BS, University of Dayton, 1970; MD, Medical College of Virginia, 1974.
- Muncie, Herbert L.**, Assistant Professor
BS, University of Georgia, 1968; MD, Medical College of Georgia, 1971.
- Novak, Theresa M.**, Instructor
RN, Georgetown University, 1947; BSNE, University of Maryland, 1958; MEd, University of Maryland, 1972.
- Payling-Wright, Charles R.**, Clinical Instructor
BA, University of Cambridge, 1960; MD, 1964.
- Silverberg, Lawrence I.**, Clinical Instructor
BS, University of Miami, 1966; DO, Kansas City College of Osteopathic Medicine and Surgery, 1971.
- Taler, George A.**, Assistant Professor
BA, Johns Hopkins University, 1971; MD, University of Maryland, 1975.
- Voss, M. William**, Assistant Professor
BA, University of Colorado, 1950; MD, University of Buffalo, 1954.
- Weir, W. Douglas**, Associate Professor
AB, St. John's College, 1958; MD, University of Maryland, 1964.
- Welliver, Daniel I.**, Assistant Professor
BA, Western Maryland College, 1950; MD, University of Maryland, 1954.

INTERNAL MEDICINE

- Adrian, Robert M.**, Assistant Professor
BS, Georgetown University, 1968; MS, Fordham University, 1971; MD, Georgetown University, 1975.
- Agapitos, George**, Associate
MD, University of Athens, 1948.
- Aisner, Joseph**, Associate Professor
BS, Wayne State University, 1965; MS, Indiana University, 1966; MD, Wayne State University, 1970.
- Alevizatos, Aristides C.**, Assistant Professor
AB, Washington and Lee University, 1956; MD, University of Maryland, 1960.
- Al-Ibrahim, Mohamed S.**, Associate Professor
MB, ChB, Baghdad College of Medicine, 1967.
- Allen, James**, Professor
BA, Harvard University, 1951; MD, Johns Hopkins University, 1955.
- Amsel, Sheldon**, Clinical Associate Professor
BS, Pennsylvania State University, 1957; MD, Jefferson Medical School, 1961.
- Antlitz, Albert**, Assistant Professor
BS, Georgetown University, 1951; MD, 1955.
- Applefeld, Jack**, Assistant Professor
BS, Washington and Lee University, 1968; MD, University of Maryland, 1972.
- Applefeld, Mark M.**, Assistant Professor
BS, Washington and Lee University, 1965; MD, University of Maryland, 1969.
- Atkins, John L.**, Assistant Professor
AB, Mount Saint Mary's College, 1932; MD, University of Pennsylvania, 1936.
- Austin, Perry**, Instructor
AB, Princeton University, 1943; MD, Columbia College of Physicians and Surgeons, 1947.
- Awalt, Lawrence F.**, Instructor
BS, Loyola College, 1956; MD, University of Maryland, 1960.
- Baker, Alva**, Assistant Professor
AB, Western Maryland College, 1966; MD, University of Maryland, 1970.
- Baum, Richard A.**, Clinical Associate Professor
AB, Brown University, 1964; MD, University of Maryland, 1968.
- Beekey, Cyrus E., Jr.**, Clinical Assistant Professor
BS, Ursinus College, 1964; MD, Jefferson Medical College, 1968.

- Bereston, Eugene**, Professor
AB, Johns Hopkins University, 1933; MD, University of Maryland, 1937; MSc, University of Pennsylvania; DSc, 1955.
- Biggs, Richard D., Jr.**, Instructor
BA, Princeton University, 1960; MD, University of Maryland, 1964.
- Billingsley, Lynn M.**, Instructor
BS, University of Maryland, 1970; MD, 1974.
- Black, Robert E.**, Assistant Professor
AB, Cornell University, 1967; MD, Hahnemann Medical College, 1972; MPH, University of California, 1976.
- Blazek, Charles**, Associate
AB, Columbia College, 1942; MD, College of Physicians Columbia University, 1945.
- Blotzer, John W.**, Assistant Professor
BA, Johns Hopkins University, 1968; MD, University of Maryland, 1972.
- Breza, George M.**, Assistant Professor
BA, Temple University, 1959; MD, Jefferson Medical College, 1963.
- Britten, John S.**, Associate Professor
BS, Yale University, 1954; MD, Columbia University, 1958.
- Bryan, Cedric W.**, Assistant Professor
MD, University of Queensland, 1962.
- Buddemeyer, Edward U.**, Associate Professor
BA, Gettysburg College, 1955; ScD, Johns Hopkins University, 1968.
- Burkle, Joseph H.**, Assistant Professor
BA, University of Pennsylvania 1940; MD, 1943.
- Burnett, Joseph W.**, Professor
AB, Yale University, 1954; MD, Harvard Medical School, 1958.
- Calia, Frank M.**, Professor
AB, Harvard College, 1958; MD, Tufts Medical School, 1962.
- Calton, Gary**, Associate Professor
BS, Eastern New Mexico University, 1965; MS, 1968; PhD, Texas A&M University, 1971.
- Camitta, Francine D.**, Associate
AB, University of Pennsylvania, 1959; MD, Hahnemann Medical College, 1963.
- Caplan, Ellis S.**, Clinical Associate Professor
BS, University of Maryland, 1964; MD, 1968.
- Cargo, David G.**, Research Associate
BS, University of Pittsburgh, 1949; MS, 1950.
- Carliner, Nathan H.**, Associate Professor
BA, Johns Hopkins University, 1961; MD, 1965.
- Carozza, Nijole B.**, Assistant Professor
BS, University of Maryland, 1961; MD, 1963.
- Cheikh, Issam E.**, Instructor
MD, Damascus University, 1968.
- Chen, Chi-Shiang**, Instructor
MD, National Taiwan University, 1969.
- Clements, Mary L.**, Assistant Professor
BA, Texas Tech University, 1968; MD, University of Texas, Southwestern, 1972; MPH, Johns Hopkins University, 1979.
- Cohen, Miriam**, Assistant Professor
MD, University of Maryland, 1964.
- Connor, Thomas B.**, Professor
BA, Loyola College, 1943; MD, University of Maryland, 1946.
- Cotter, Edward F.**, Professor Emeritus
MD, University of Maryland, 1935.
- Dawson, Ben R.**, Associate Professor
BS, BA, Hampden-Sydney College, 1958; MD, University of Virginia, 1963.
- Dear, William**, Instructor
BS, University of Maryland, 1959; MD, 1964.
- Dembo, Donald H.**, Assistant Professor
AB, Johns Hopkins University, 1951; MD, University of Maryland, 1955.
- DeMunecas, Anthony**, Assistant Professor
BS, University of Valladolid, 1942; MD, Medical School of Granada, 1950.
- Diggs, Charles H.**, Assistant Professor
BA, DePauw University, 1968; MD, Johns Hopkins University, 1972.

- Dilaimy, Mouta**, Assistant Professor
MD, Baghdad School of Medicine, 1961.
- Donohue, Salvatore R.**, Assistant Professor
BA, Loyola College, 1959; MD, University of Maryland, 1964.
- Drusano, George L.**, Instructor
BS, Boston College, 1971; MD, University of Maryland, 1975.
- Dunseath, William R.**, Instructor
BS, United States Naval Academy, 1945; MD, University of Maryland, 1959.
- Dureza, Renan J.**, Assistant Professor
AA, University of Saint Augustine, 1959; MD, University of Santo Tomas, Philippines, 1961.
- Dutta, Sudhir K.**, Assistant Professor
BS, S.D. College (India), 1965; MB, BS, University of Delhi, 1970.
- Ebeling, William C., III**, Assistant Professor
BS, University of Maryland, 1943; MD, 1944.
- Entwisle, George**, Assistant Professor
BS, University of Massachusetts, 1945; MD, Boston University School of Medicine, 1948.
- Epstein, Barry H.**, Assistant Professor
AB, Columbia University, 1960; MD, Chicago Medical School, 1964.
- Espenschade, Park W., Jr.**, Instructor
BS, George Washington University, 1958; MD, Johns Hopkins University, 1962.
- Espina, Renato R.**, Instructor
AA, University of St. Thomas, 1956; MD, 1961.
- Esterhay, Robert J., Jr.**, Assistant Professor
BA, Harvard University, 1965; MD, Case Western Reserve University, 1969.
- Farrell, Bernard P.**, Assistant Professor
MB, BCh, BAO, University of Dublin, 1972.
- Felipa, Raul V.**, Instructor
BS, San Marcos University, 1956; MD, 1964.
- Fiocco, Vincent J.**, Instructor
AB, Columbia College, 1954; MD, University of Maryland, 1957.
- Fiscus, Wilbur**, Assistant Professor
BS, Oklahoma State University, 1957; MD, Baylor, 1961.
- Fisher, Michael L.**, Associate Professor
MD, University of Illinois, 1967.
- Fratto, Carmen A.**, Assistant Professor
BS, University of Maryland, 1958; MD, 1962.
- Furnary, Joseph**, Associate
BS, University of Pittsburgh, 1938; MD, University of Maryland, 1942.
- Geckler, Ronald W.**, Assistant Professor
BS, University of Florida, 1964; MD, University of Florida, 1969.
- Glick, L. Michael**, Assistant Professor
MD, University of Maryland, 1954.
- Goldner, Ronald**, Assistant Professor
BS, University of Maryland, 1960; MD, 1965.
- Gonzalez, Luis F.**, Instructor
MD, University of Maryland, 1952.
- Goodman, Jay S.**, Professor
MD, University of Maryland, 1961.
- Gould, William**, Assistant Professor
BS, Duke University, 1961; MD, University of Maryland, 1965.
- Gray, Darrell M.**, Instructor
BA, Johns Hopkins University, 1972; MD, University of Maryland, 1976.
- Greisman, Sheldon E.**, Professor
MD, New York University, 1949.
- Grenzer, Louis**, Instructor
AB, Duke University, 1962; MD, University of Maryland, 1966.
- Hahn, Davis M.**, Assistant Professor
BA, Johns Hopkins University, 1967; MD, University of Virginia, 1971.
- Hamilton, Bruce P.**, Associate Professor
MB, ChB, University of Otago, New Zealand, 1960.
- Hamilton, Frank**, Assistant Professor
BS, State University of New York; MD, Howard University, 1970.

- Hamilton, Jennifer H.M.**, Research Associate
BA, University of Oxford, 1963; BMBCh, 1966.
- Hankin, Samuel**, Assistant Professor
MD, University of Maryland, 1928.
- Hardesty, Daniel C.**, Assistant Professor
BA, Towson State University, 1969; MD, University of Maryland, 1973.
- Hartley, Robert**, Assistant Professor
BS, Dickinson College, 1956; MD, Jefferson Medical College, 1960.
- Hayes, Michael**, Assistant Professor
BS, University of Maryland, 1959; MD, 1963.
- Heald, Felix P.**, Associate Professor
AB, Colorado College, 1943; MD, University of Pennsylvania, 1946.
- Heyman, Meyer R.**, Assistant Professor
BS, University of Maryland, 1966; MD, 1970.
- Hijab, Wally S.**, Assistant Professor
MB, ChB, University of Baghdad, 1952.
- Hobbins, Thomas E.**, Assistant Professor
AB, University of Pennsylvania, 1961; MD, Hahnemann Medical College, 1965.
- Hofkin, Gerald A.**, Assistant Professor
AB, Johns Hopkins University, 1957; MA, 1957; MD, University of Maryland, 1961.
- Hrehorovich, Victor**, Associate Professor
BA, Harvard University, 1962; MD, 1966.
- Hughes, Timothy P.**, Research Associate.
BS, Pennsylvania State University, 1974.
- Iber, Frank**, Professor
BA, Miami University, 1948; MA, 1949; MD, Johns Hopkins University, 1953.
- Inayatullah, Mohammad**, Instructor
MS, BS, King Edward Medical College, Lahore, Pakistan, 1956.
- Irani, Rustum**, Instructor
BSc, Forman Christian College, 1959; MB, BS, King Edward Medical College, 1964.
- Janoski, Alfonso H.**, Assistant Professor
BA, Seton Hall University, 1957; MD, Columbia University, 1961.
- Jiji, Rouben M.**, Associate Professor
MD, Royal College of Medicine, Baghdad, Iraq, 1950.
- Johnson, David E.**, Instructor
AB, University of North Carolina, 1961; MS, University of Maryland, 1970; PhD, 1976.
- Johnston, Gerald S.**, Professor
BS, University of Pittsburgh, 1952; MD, 1956.
- Josselson, John**, Assistant Professor
BS, University of Michigan, 1966; MD, 1970.
- Judd, Kenneth P.**, Assistant Professor
BS, Tufts University, 1964; MS, Boston College, 1968; PhD, Baylor University, 1970; MD, 1974.
- Kahane, Stanley B.**, Associate Professor
BA, Washington Square College of New York University, 1948; MD, University of Geneva, 1958.
- Kaplan, Richard S.**, Assistant Professor
BA, University of Pittsburgh, 1966; MD, University of Miami, 1970.
- Karacuschansky, Miguel**, Instructor
BS, San Marcos University, 1962; MD, 1968.
- Karfgin, Walter**, Associate
BS, Washington College, 1932; MD, University of Maryland, 1936.
- Karns, James R.**, Professor
BS, University of Maryland, 1939; MD, 1940.
- Karpers, Bernard S.**, Instructor
BS, Loyola College, 1958; MD, University of Maryland, 1962.
- Keleman, Michael**, Assistant Professor
BS, Ursinus College, 1962; MD, University of Pennsylvania, 1966.
- Kerr, Harry D.**, Associate Professor
BS, Maryville College, 1951; MD, Temple University 1956.
- Knoch, H. Roebling**, Associate
MC, Temple University, 1941.
- Kochman, Leon**, Assistant Professor
MD, University of Pennsylvania, 1933.

- Kulle, Thomas J.**, Assistant Professor
MS, Adelphia University, 1961; PhD, University of Cincinnati, 1972.
- Kushner, Herbert A.**, Associate Professor
AB, Franklin and Marshall College, 1956; MD, Johns Hopkins University, 1960.
- Kuzbida, Gregory J.**, Research Associate
BA, West Virginia University, 1973; MA, University of Maryland, 1977.
- Lawrence, George**, Instructor
BS, Hobart College, 1959; MD, Tufts Medical College, 1963.
- Leavitt, Richard D.**, Associate Professor
BS, University of Chicago, 1967; MD, University of Illinois, 1971.
- Lee, Yu-Chen**, Associate Professor
BS, Taikoku Imperial University, 1945; MD, National Taiwan University, Formosa, 1949.
- Levi, John A.**, Assistant Professor
MB, BS, University of Sydney, 1967; MRACP, Royal Australian College of Physicians, 1970.
- Levine, Myron M.**, Associate Professor
BS, City College of New York, 1963; MD, Medical College of Virginia, 1967.
- Lewandowski, Anthony A.**, Assistant Professor
BS, Loyola College, 1951; MD, University of Maryland, 1955.
- Lichtenfeld, J. Leonard**, Assistant Professor
BA, University of Pennsylvania, 1967; MD, Hahnemann Medical College, 1971.
- Lichtenfeld, Karen**, Assistant Professor
BA, University of Pennsylvania, 1968; MD, Jefferson Medical College, 1972.
- Light, Paul D.**, Assistant Professor
AB, Holy Cross College, 1968; MD, University of Maryland, 1972.
- Lisansky, Ephraim T.**, Professor Emeritus
BA, Johns Hopkins University, 1933; MD, University of Maryland, 1937.
- List, Noel D.**, Assistant Professor
MD, State University of New York, 1965; MPH, Harvard University, 1967.
- Manzella, John P.**, Assistant Professor
BA, Conisius College, 1970; MD, SUNY at Buffalo, 1974.
- Martin, Luis G.**, Associate Professor
MD, Madrid Medical School, 1954.
- Mazzocco, Eugene V.**, Clinical Assistant Professor
AB, West Virginia University, 1951; MD, Medical College of Virginia, 1961.
- McConville, John**, Assistant Professor
BA, University of Notre Dame, 1964; MD, New Jersey College of Medicine, 1968.
- McPhillips, James**, Instructor
BA, LaSalle College, 1959; MD, State University of New York Downstate Medical Center, 1963.
- Mead, Joseph**, Professor
AB, Loyola College, 1954; MD, University of Maryland, 1958.
- Medalie, George R.**, Instructor
BA, Case Western Reserve University, 1972; MD, SUNY, Downstate Medical Center, 1976.
- Merritt, John**, Assistant Professor
AB, Dartmouth College, 1954; MD, Yale University, 1958.
- Mersey, James**, Assistant Professor
AB, Amherst College, 1968; MD, Johns Hopkins University, 1972.
- Messina, John J.**, Instructor
BA, Johns Hopkins University, 1956; MD, University of Maryland, 1960.
- Miller, Edward M.**, Instructor
BA, University of Maryland, 1971; MD, 1975.
- Milner, Sheldon D.**, Assistant Professor
BS, University of Maryland, 1970; MD, 1974.
- Mobarhan, Sohrab**, Assistant Professor
MD, University of Rome, 1965.
- Moodie, Allan S.**, Assistant Professor
DPH, University of Glasgow, 1939, MB, ChB, 1936.
- Moran, George**, Assistant Professor
BS, Saint John's University, 1965; MA, 1967; MD, Johns Hopkins University, 1973.
- Moran, Marguerite T.**, Assistant Professor
BS, St. John's University, 1965; MD, New York Medical College, 1969.
- Morrison, Samuel**, Associate Professor
AB, Johns Hopkins University, 1925; MD, 1929.

Morrison, Stanley, Assistant Professor
BS, University of Maryland, 1968; MD, 1972.

Mueller, Paul, Associate
BS, Loyola College, 1951; MD, University of Maryland, 1955.

Mugmon, Marc A., Instructor
BS, Georgetown University, 1972; MD, George Washington University, 1973.

Mullholland, John H., Assistant Professor
BA, University of Virginia, 1955; MD, Johns Hopkins University, 1959.

Nalin, David R., Research Associate Professor
AB, Cornell University, 1961; MD, Albany Medical College, 1965.

Nolan, James J., Instructor
BS, Loyola College, 1937; MD, University of Maryland, 1941.

Notarangelo, Joseph D., Assistant Professor
BA, Loyola College, 1960; MD, Georgetown University, 1964.

O'Connell, Michael J., Assistant Professor
BA, University of Minnesota, 1966; MD, 1969.

O'Mansky, Samuel I., Assistant Professor
BA, Duke University, 1952; MD, 1957.

Pachuta, Donald M., Associate Professor
BA, Niagara University, 1962; MD, State University of New York, 1966.

Papadopoulos, Chris, Assistant Professor
MS, BCH, University of Alexandria, Egypt, 1956.

Parker, Robert T., Associate Professor
AB, Johns Hopkins University, 1941; MD, 1944.

Pass, Carolyn, J., Clinical Assistant Professor
BS, University of Maryland, 1962; MD, 1966.

Pavlis, William, Research Associate
BA, Wake Forest, 1966; MA, 1967.

Pearson, Frederick N., Instructor
AB, Princeton University, 1964; MD, University of Maryland, 1969.

Peters, Robert W., Associate Professor
BA, Columbia University, 1963; MD, Chicago Medical School, 1967.

Plotnick, Gary D., Associate Professor
AB, Johns Hopkins University, 1962; MD, University of Maryland, 1966.

Plott, Michael F., Associate
AB, Loyola College, 1960; MD, Georgetown University, 1964.

Posner, David B., Assistant Professor
BS, California Institute of Technology, 1966; MD, University of Maryland, 1970.

Pototsky, Ronald S., Assistant Professor
AB, Johns Hopkins University, 1964; MD, University of Maryland, 1968.

Quartner, Jeffrey L., Instructor
BA, Johns Hopkins University, 1971; MD, University of Maryland, 1975.

Quinlan, James A., Assistant Professor
BS, University of Maryland, 1962; MD, 1966.

Ramos, Emilio, Associate Professor
BA, Saint Joseph University, Lebanon, 1955; MD, 1963.

Randall, Louis N., Instructor
BS, University of Maryland, 1970; MD, 1974.

Randall, William E., Jr., Instructor
BS, University of Maryland, 1968; MD, 1972.

Rapoport, Morton I., Professor
BS, Franklin and Marshall College, 1956; MD, University of Maryland, 1960.

Raskin, Howard F., Associate Professor
BA, Johns Hopkins University, 1945; MD, University of Maryland, 1949.

Raskin, Joan, Associate Professor
BA, Goucher College, 1951; MD, University of Maryland, 1955.

Reed, Julian, Associate Professor
BS, University of Maryland, 1948; MD, 1952.

Rennels, Margaret B., Assistant Professor
BA, Skidmore College, 1967; MD, University of Maryland, 1973.

Rhead, John C., Research Associate
BA, Dartmouth College, 1967; PhD, Stamford, 1971.

- Rivera, Luis E.**, Instructor
BS, University of Puerto Rico, 1965; MD, 1969.
- Rogers, Elizabeth L.**, Assistant Professor
BA, Mount Holyoke College, 1967; MD, Jefferson Medical School, 1971.
- Roig, Ramon**, Associate
BS, University of Puerto Rico, 1955; MD, University of Maryland, 1959.
- Rusche, Edward**, Associate Professor
MD, University of Leyden, The Netherlands, 1954.
- Russell, Robert M.**, Associate Professor
BA, Harvard University, 1963; MD, Columbia University, 1967.
- Sadler, John H.**, Associate Professor
BS, Duke University, 1956; MD, 1960.
- Salan, Jerry**, Assistant Professor
BA, Saint John's College, 1954; MD, University of Maryland, 1960.
- Samarodin, Charles S.**, Instructor
BS, University of Maryland, 1964; MD, 1968.
- Samelson, Lee**, Associate
PhB, University of Chicago, 1948; MD, Harvard Medical School, 1952.
- Sampliner, Richard E.**, Associate Professor
BA, Yale University, 1963; MD, Western Reserve University, 1967.
- Saunders, Elijah**, Instructor
BS, Morgan State College, 1956; MD, University of Maryland, 1960.
- Scherlis, Leonard**, Professor
AB, Johns Hopkins University, 1942; MD, 1945.
- Schiffer, Charles A.**, Associate Professor
AB, Brandeis University, 1964; MD, New York University, 1968.
- Schimpff, Stephen C.**, Professor
BA, Rutgers University, 1963; MD, Yale University, 1967.
- Schmidt, Marcia C.**, Assistant Professor
BS, University of Colorado, 1963; MD, University of Florida, 1967.
- Serpick, Arthur**, Assistant Professor
BS, University of Maryland, 1956; MD, 1959.
- Shannon, Robert M.**, Assistant Professor
MD, University of Maryland, 1971.
- Shapiro, Albert**, Clinical Professor
BS, University of Maryland, 1934; MD, 1937.
- Shaw, Charles E.**, Assistant Professor
BS, University of Maryland, 1942; MD, 1944.
- Shear, Joseph**, Assistant Professor
BS, Pharmacy, University of Maryland, 1943; MD, 1947.
- Sidhu, Ajaib S.**, Instructor
BS, Panjab University, India, 1943; MD, 1950; PhD, 1962.
- Silverstein, Emanuel**, Assistant Professor
BS, University of Maryland, 1957; MD, 1960.
- Simpson, David G.**, Associate Professor
MB, BCh, Queen's University, Belfast, 1942; MD, 1950.
- Sina, Bahram**, Assistant Professor
MD, Faculte de Medecine de Paris, 1955.
- Singleton, Robert T.**, Associate Professor
BS, University of Maryland, 1951; MD, 1953.
- Smith, Andrew**, Associate Professor
BS, Pennsylvania State University, 1940; MS, 1947. PhD, 1950.
- Smith, Vernon M.**, Professor
MD, Temple University, 1949.
- Smoot, Roland T.**, Assistant Professor
BS, Howard University, 1948; MD, 1952.
- Snyder, Merrill J.**, Professor
BS, University of Pittsburgh, 1940; MS, University of Maryland, 1950; PhD, 1953.
- Spicer, William S.**, Professor
MD, University of Kansas, 1949.
- Spiggle, Wayne C.**, Clinical Assistant Professor
AB, Berea College, 1956; BS, University of West Virginia, 1959; MD, Medical College of Virginia, 1961.

- Standiford, Harold C.**, Associate Professor
AB, Johns Hopkins University, 1960; MD, University of Maryland, 1964.
- Steinbach, Stanley**, Associate
AB, Johns Hopkins University, 1942; MD, University of Maryland, 1945.
- Stevens, Mary Betty**, Associate Professor
BA, Vassar College, 1948; MD, Johns Hopkins University, 1955.
- Stone, John H.**, Instructor
BS, University of Maryland, 1947; MD, 1951.
- Stoner, Robert**, Instructor
BA, Rutgers University, 1960; MD, University of Maryland, 1964.
- Sutton, Frederick J.**, Assistant Professor
BA, Cornell University, 1969; MD, George Washington University, 193.
- Swisher, Kyle Y., Jr.**, Assistant Professor
MD, University of Maryland, 1948.
- Tenney, James H.**, Assistant Professor
AB, Harvard University, 1966; MD, 1970.
- Tigertt, William D.**, Professor
AB, Baylor University, 1937; MD, 1938.
- Townshend, Wilfred**, Associate
AB, Johns Hopkins University, 1936; MD, University of Maryland, 1940.
- Tudino, M. Eugene**, Assistant Professor
BS, Providence College, 1953; MD, University of Bologna, Italy, 1960.
- Urbaitus, Barbara K.**, Assistant Professor
BA, Hunter College, 1960; MA, 1964; PhD, Cornell University, 1968.
- Valente, William**, Assistant Professor
BA, University of Maryland, 1970; MD, 1974.
- Van Echo, David**, Assistant Professor
BS, Xavier University, 1969; MD, University of Maryland, 1973.
- Van Lill, Stephen J.**, Associate
AB, Duke University, 1938; MD, University of Maryland, 1943.
- Warner, Larry J.**, Clinical Assistant Professor
BS, University of Maryland, 1963; MD, 1967.
- Warren, John W.**, Assistant Professor
BA, University of Michigan, 1966; MD, Harvard Medical School, 1970.
- Weber, Ralph**, Associate
BS, Franklin and Marshall College, 1949; MD, Temple University, 1954.
- Weckesser, Barry J.**, Instructor
BS, University of Florida, 1963; MD, 1967.
- Whitfield, Charles L.**, Associate Professor
BA, University of North Carolina (Chapel Hill), 1960; MD, 1965.
- Wiernik, Peter H.**, Professor
BA, University of Virginia, 1961; MD, 1965.
- Williams, Richard B.**, Clinical Assistant Professor
BS, Duke University, 1969; MD, University of Virginia, 1973.
- Wilson, Terry L.**, Assistant Professor
BA, Kalamazoo College, 1968; MA, State University of New York, 1970; PhD, University of Illinois, 1975.
- Wiswell, John G.**, Professor
BA, Dalhousie University, 1938; BS, 1940; MDCM, 1943.
- Wolfe, Irving D.**, Instructor
BA, Johns Hopkins University, 1963; MD, University of Maryland, 1968.
- Woodward, Celeste L.**, Assistant Professor
BA, University of Aix-Marseilles, France, 1932; MD, University of Maryland, 1938.
- Woodward (Applefeld), Celeste L.**, Assistant Professor
MD, University of Maryland, 1972.
- Woodward, Theodore E.**, Professor and Chairman
BS, Franklin and Marshall College, 1934; MD, University of Maryland, 1938; DSc (honorary), Western Maryland College, 1950; DSc (honorary), Franklin and Marshall College, 1954.
- Yaffe, Stanley N.**, Associate Professor
BS, University of Maryland, 1941; MD, 1944.
- Yannakakis, George D.**, Associate Professor
MD, National University of Athens, 1956.

Yen, Michael, Assistant Professor
MD, First Medical College of Shanghai, 1965.

Young, Charles R., Instructor
BA, University of Maryland, 1973.

Zieve, Phillip D., Associate Professor
AB, Franklin and Marshall College, 1954; MD, University of Maryland, 1958.

Zizic, Thomas M., Assistant Professor
BS, University of Wisconsin, 1961; MD, Johns Hopkins University, 1965.

INTERNATIONAL HEALTH PROGRAM

Aslamkhan, Mohammed, Associate Professor
BS, Punjab University, 1951; MS, 1953; DSc, Johannes Gutenberg Universitat, 1963.

Baker, Richard H., Professor
BS, University of Illinois, 1958; MS, 1962; PhD, 1965.

Nalin, David R., Associate Professor
AB, Cornell University, 1961; MD, Albany Medical College, 1965.

Reisen, William K., Assistant Professor
BS, University of Delaware, 1967; MS, Clemson University, 1968; PhD, University of Oklahoma, 1974.

Sakai, Richard K., Associate Professor
BA, Boston University, 1959; MA, University of Hawaii, 1964; PhD, 1968.

MICROBIOLOGY

Baker, Richard H., Professor
BS, University of Illinois, 1959; MS, 1962; PhD, 1965.

Camenga, David L., Assistant Professor
BS, Massachusetts Institute of Technology, 1960; MS, University of Wisconsin, 1964; MD, 1965.

Cole, Gerald A., Professor
BS, Wilson Teachers College, 1952; PhD, University of Maryland, 1966.

Eylar, Ollie R., Associate Professor
BA, University of Minnesota, 1952; MS, 1955; PhD, 1959.

Farhang-Azad, Abdulrahman, Assistant Professor
DrPharm, University of Teheran, 1966; MPH, 1970; PhD, Johns Hopkins University, 1975.

Fiset, Paul, Professor
BA, Laval University, Quebec, 1944; MD, 1949; PhD, University of Cambridge, England, 1956.

Kessel, Rosslyn W. I., Professor
MBBS, University College Hospital, Medical School, London, England, 1955; PhD, Rutgers University, 1960.

Lovchik, Judith L., Assistant Professor
BS, Creighton University, 1961; BA, Seattle University, 1965; MS, University of Wisconsin, 1971; PhD, 1974.

Murphy, James R., Assistant Professor
BA, Catholic University of America, 1970; PhD, University of Maryland, 1977.

Myers, William F., Assistant Professor
BA, University of Kansas, 1949; MA, 1957; PhD, 1958.

Silverman, David J., Assistant Professor
BS, Muhlenberg College, 1965; MS, University of Tennessee, 1967; PhD, West Virginia University, 1971.

Smith, Jonathan F., Assistant Professor
BA, Colby College, 1968; PhD, University of Texas, 1974.

Traub, Robert, Professor
BS, College of the City of New York, 1938; MS, Cornell University, 1939; PhD, 1947.

Wiseman, Charles L., Jr., Professor and Chairman
BA, Southern Methodist University, 1941; MS, Kansas State College, 1943; MD, Southwestern Medical College, 1946.

NEUROLOGY

Atkinson, Matthew, Clinical Assistant Professor
BA, Princeton University, 1948; MD, Johns Hopkins University, 1952.

Barnett, Leslie, Assistant Professor
BS, University of Maryland, 1967; MD, 1971.

Belaga, A. Gary, Clinical Instructor
BS, University of Maryland, 1966; MD, 1970.

- Camenga, David L.**, Assistant Professor
BS, Massachusetts Institute of Technology, 1960; MS, University of Wisconsin, 1964; MD, 1965.
- Capozzoli, Nicholas**, Clinical Instructor
BS, Manhattan College, 1964; MD, New York University, 1968.
- Eckholdt, John W.**, Clinical Assistant Professor
AB, University of Minnesota, 1959; BS, 1961; MD, 1963.
- Fujimoto, Katsukuni**, Visiting Instructor
BS, Osaka City University, 1971; MD, 1975.
- Genut, A. Allan**, Clinical Instructor
BS, University of Maryland, 1967; MD, 1971.
- Grady, Patricia**, Research Assistant Professor
BS, (nursing), Georgetown University, 1967; MS, (nursing), University of Maryland, 1968; PhD, 1976.
- Gregory, Thomas**, Research Associate
BA, Williams College, 1965; MS, State University of New York at Buffalo, 1972; PhD, 1978.
- Gumbinas, Maria**, Assistant Professor
BA, University of Chicago, 1963; MD, 1966.
- Hulfish, Barbara**, Instructor
BA, American University, 1944; MD, University of Rochester, 1952.
- Khurana, Ramesh K.**, Assistant Professor
MB, BS, Government Medical College, Amritsar, India, 1969.
- Koski, Carol Lee**, Assistant Professor
BA, Goucher College, 1964; MD, University of Maryland, 1968.
- Kramer, Morton D.**, Clinical Assistant Professor
AB, (pharmacy), University of Maryland, 1950; MD, 1955.
- Law, William**, Clinical Instructor
AB, Loyola College, 1957; MD, University of Maryland, 1962.
- Max, Stephen R.**, Associate Professor
BS, University of Rhode Island, 1962; PhD, 1966.
- Mayer, Richard F.**, Professor and Acting Chairman
BS, Saint Bonaventure College, 1950; MD, University of Buffalo, 1954.
- Merlis, Jerome K.**, Professor Emeritus
BS, University of Louisville, 1933; MD, 1937; MS, 1938.
- Mosser, Robert S.**, Assistant Professor
BS, University of Maryland, 1949; MD, 1951.
- Nassem, Syed**, Research Associate
BS, Aligarh University, 1963; MS, 1965; PhD, 1968.
- Nelson, Erland**, Professor
AB, Carthage College, 1947; MD, Columbia University College of Physicians and Surgeons, 1951; PhD, University of Minnesota, 1961.
- Oleynick, Anatol H.**, Clinical Assistant Professor
AB, University of Pennsylvania, 1952; MD, University of Chicago, 1956.
- Price, Thomas R.**, Professor
BA, University of Virginia, 1956; MD, 1960.
- Reggia, James**, Assistant Professor
BS, University of Maryland, 1971; MD, 1975.
- Rennels, Marshall L.**, Professor
BS, Eastern Illinois University, 1961; MS, University of Texas Medical Branch, 1964; PhD, 1966.
- Robbins, Solomon**, Clinical Instructor
BA, University of Florida, 1961; MD, Medical College of Georgia, 1965.
- Schilder, Peter**, Clinical Instructor
BS, University of Utah, 1960; MA (experimental psychology), Adelphi College, 1962; PhD (physiological psychology), 1965; MD, Downstate Medical Center, 1966.
- Sutton, Granger G.**, Associate Professor
BS, Massachusetts Institute of Technology, 1952; MD, University of Maryland, 1958.
- Taylor, Richard**, Clinical Instructor
BA, Johns Hopkins University, 1971; MD, University of Maryland, 1975.
- Teitelbaum, Harry A.**, Clinical Assistant Professor
BS, University of Maryland, 1929; PhD, 1936.
- Toop, James B.**, Instructor
BS, University of Edinburgh, 1969; PhD, 1974.
- Toro, Rodrigo**, Assistant Professor
AB, Colegio "Deogracias Cardona", Columbia, 1952; MD, Universidad Nacional, 1959.

Van Buskirk, Charles, Professor

AB, Westminster College, 1939; MS (microanatomy), Saint Louis University, 1941; PhD, University of Minnesota, 1943; MD, Albany Medical College, 1947; MS (neurology), University of Minnesota, 1953.

Wagner, Arthur M., Assistant Professor

BA, University of Pennsylvania, 1966; MD, University of Maryland, 1970.

Weisman, Richard, Clinical Instructor

BA, Harvard University, 1969; MD, University of Maryland, 1973.

Wexler, Ira, Clinical Instructor

BS, Rensselaer Polytechnic Institute, 1957; MS, Downstate Medical Center, 1959; PhD, 1963; MD, 1966.

Young, Joseph, Research Associate

BS, University of Maryland, 1970; MS, 1973; PhD, 1976.

OBSTETRICS AND GYNECOLOGY

Albrecht, Eugene D., Assistant Professor

BS, University of Vermont, 1965; MS, 1967; PhD, Rutgers University, 1972.

Allen, Willard M., Professor

BS, Hobart College, 1926; MS, University of Rochester, 1929; MD, 1932.

Ances, Isadore G., Professor

BS, University of Maryland, 1956; MD, 1959.

Barnett, Robert M., Assistant Professor

BS, College of Charleston, 1951; MD, University of Maryland, 1955.

Cornbrooks, Ernest I., Jr., Associate Professor

AB, Saint John's College, 1931; MD, University of Maryland, 1935.

Didolkar, Mukund S., Clinical Assistant Professor

MBBS, Nagpur University, India, 1965; MS, (surg.) 1968.

Diggs, Everett S., Assistant Professor

BS, University of Maryland, 1934; MD, 1937.

Durkan, James P., Associate Professor

AB, Loyola College, 1955; MD, University of Maryland, 1959.

Fajer, Abram B., Professor

BS, Sao Paulo College, 1945; MD, University of Sao Paulo, 1951.

Frieman, Sylvan, Clinical Assistant Professor

BS, University of Maryland, 1949; MD, 1953.

Ginsberg, Dennis, Instructor

BS, University of Maryland 1972; MD, 1976.

Julian, Emerson R., Instructor

BA, Johns Hopkins University, 1972; MD, University of Maryland, 1976.

Kaltreider, D. Frank, Professor

BA, Johns Hopkins University, 1933; MD, University of Maryland, 1937.

Kho, Ronald L. S., Instructor

MD, University of Indonesia, 1963.

Lahom, Laudelina R., Assistant Professor

BS, Far Eastern University, 1964; MD, 1969.

Levin, Norman, Associate

MD, University of Maryland, 1947.

Middleton, Edmund B., Associate Professor

MD, University of Maryland, 1949.

Moszkowski, Erica F., Assistant Professor

BS, Liceo Nacional de Senoritas N1, 1946; MD, University of Buenos Aires, 1954.

Mould, Leslie L., Assistant Professor

MD, Queen's University, Ontario, 1952.

Munford, Richard S., Associate Professor

BA, University of Rochester, 1951; MD, Yale University, 1951.

Ongkasuwan, Chaweng, Clinical Instructor

MD, Mahidol University, 1967.

Raiti, Salvatore, Associate Professor

MB, BS, University of Queensland, 1958; DCH, Institute of Child Health, London, 1961; MRCP, University of Glasgow, 1962.

Randall, Louis L., Instructor

BS, Morgan State College, 1953; MD, University of Maryland, 1957.

- Rivera-Rivera, Ernesto**, Assistant Professor
MD, University of Maryland, 1966.
- Schwartz, Benson C.**, Assistant Professor
MD, University of Maryland, 1948.
- Siegel, Isadore A.**, Professor Emeritus
AB, Johns Hopkins University, 1919; MD, 1923.
- Sindler, Michael J.**, Clinical Instructor
BA, University of Maryland, 1968; MD, 1972.
- Tiralla, Joseph R.**, Instructor
BS, Towson State University, 1972; MD, University of Maryland, 1976.
- Toher, James E.**, Clinical Assistant Professor
BS, Providence College, 1950; MD, Georgetown University Medical School, 1954.
- VillaSanta, Umberto**, Professor
MD, University of Padua, Italy, 1950.
- Wartanian, Ghevont W.**, Clinical Instructor
MD, Yerevan State Medical Institute, 1972.
- Willard, Susan M.**, Instructor
BS, University of Maryland, 1972; MD, 1976.
- Wilson, Fitzpatrick**, Associate Professor
BS, The City College, New York, 1953; MD, State University of New York, Downstate Medical Center, 1957.
- Wolk, Barry M.**, Clinical Instructor
BA, Ohio State University, 1968; MD, University of Maryland, 1972.

OPHTHALMOLOGY

- Amernick, Stanley J.**, Clinical Instructor
BS, University of Maryland, 1969; MD, 1973.
- Aquilla, Joseph**, Clinical Instructor
AB, Saint Michaels College, 1967; MD, University of Maryland, 1971.
- Braver, David A.**, Clinical Assistant Professor
BS, Ohio State University, 1957; MD, University of Maryland, 1963.
- Brull, Stanley**, Clinical Instructor
BS, Loyola College, 1964; MD, University of Maryland, 1969.
- Bruther, William F.**, Clinical Instructor
BS, Mount Saint Mary's College, 1961; MD, University of Maryland, 1966.
- Creamer, John J.**, Clinical Assistant Professor
BS, University of Maryland, 1950; BS (pharmacy), 1953; MD, New York Medical College, 1960.
- Cryer, Theodore H.**, Clinical Instructor
BA, Taylor University, 1968; MD, University of Maryland, 1972.
- Ehrlich, Gary L.**, Clinical Instructor
BS, Dickinson College, 1961; MD, University of Maryland, 1965.
- Feinberg, Gilbert N.**, Clinical Assistant Professor
BS, Johns Hopkins University, 1955; MD, University of Maryland, 1959.
- Gambrill, John Jr.**, Clinical Instructor
BS, Howard University, 1966; MD, University of Maryland 1972.
- Goldberg, Julian R.**, Clinical Assistant Professor
AB, Johns Hopkins University, 1952; MD, University of Maryland, 1955.
- Gots, Barbara A.**, Clinical Instructor
AB, Temple University, 1964; MA, 1966; MD, University of Southern California, 1973.
- Hameroff, Stephen B.**, Clinical Associate Professor
BS, University of Maryland, 1962; MD, 1966.
- Jones, Thomas C.**, Clinical Assistant Professor
BS, Florida A & M University, 1942; MD, Meharry Medical College, 1945.
- Kasper, Robert L.**, Clinical Assistant Professor
BS, University of Miami, 1960; MD, 1963.
- Katzen, Leeds E.**, Clinical Associate Professor
BS, University of Maryland, 1958; MD, 1964.
- Kaur, Surinder**, Clinical Instructor
BA, Punjab University, 1957; MD, 1963.
- Kidwell, Earl D.**, Clinical Assistant Professor
BA, Columbia University, 1969; MD, Johns Hopkins University, 1973.
- Kohlhepp, Paul A.**, Clinical Instructor
BS, Loyola College, 1958; MD, University of Maryland, 1962.

- Kolker, Richard J.**, Clinical Instructor
BS, University of Pennsylvania, 1965; MD, University of Maryland, 1970.
- Kronthal, Alfred**, Clinical Instructor
BS, Loyola College, 1957; MD, University of Maryland, 1961.
- Lakhanpal, Vinod**, Assistant Professor
MBBS, Medical College of Amritsar, 1967; MS, Postgraduate Institute of Medical Education and Research, Chandigarh, 1971.
- Leffler, Martha B.**, Clinical Assistant Professor
BS, Iowa State University, 1962; MD, Johns Hopkins University, 1966.
- Liggett, Peter E.**, Clinical Instructor
BS, University of Illinois, 1969; MD, Columbia University College of Physicians and Surgeons, 1973.
- Meisels, Alfred**, Clinical Assistant Professor
MD, University of Vienna, 1958.
- Miller, Gerald A.**, Clinical Instructor
BS, University of Maryland, 1957; MD, 1961.
- Morgan, Basil S.**, Clinical Instructor
BS, State University of New York, 1970; MD, Johns Hopkins University, 1974.
- Nirankari, Verinder S.**, Assistant Professor
MBBS, Medical College of Amritsar, 1968; DOMS, 1971.
- O'Rourke, Thomas R., Jr.**, Clinical Instructor
BS, University of Maryland, 1957; MD, 1962.
- Parran, Jay N.**, Clinical Assistant Professor
BS, Case Institute, 1965; MD, University of Maryland, 1970.
- Richards, Richard D.**, Professor and Chairman
AB, University of Michigan, 1948; MD, 1951; MSc, State University of Iowa, 1957.
- Ross, Jerome**, Clinical Assistant Professor
BS, University of Maryland, 1957; MD, 1960.
- Schocket, Stanley S.**, Professor
BS, University of Maryland, 1955; MD, 1959.
- Silver, Allen E.**, Clinical Instructor
BA, Wayne State University, 1959; MD, 1963.
- Susel, Richard N.**, Clinical Assistant Professor
BS, University of Maryland, 1962; MD, 1966.
- Tittel, Paul**, Research Associate
BS, Johns Hopkins University, 1957.
- Varma, Shambhu**, Professor
BS, University of Allahabad; MSc, 1957; PhD, 1964.
- Weiner, Barry M.**, Instructor
AA, Baltimore Junior College, 1963; BS, Pennsylvania College Optometry, 1965; OD, 1967.
- Winter, Brian J.**, Clinical Instructor
BS, University of Maryland, 1970; MD, 1972.
- Young, Lois A.**, Clinical Professor
BS, Howard University, 1956; MD, University of Maryland, 1960.

PATHOLOGY

- Adams, John E.**, Assistant Professor
BS, University of Maryland, 1954; MD, 1956.
- Adelberg, Elaine R.**, Research Associate
BS, University of Pittsburgh, 1953.
- Albites, Victor**, Instructor
MD, University of San Marcos, Lima, Peru, 1957.
- Anthony, Ronald L.**, Associate Professor (clinical immunology)
BA, Susquehanna University, 1961; PhD, University of Kansas, 1965.
- Arstila, Antti U.**, Associate Professor
MD, University of Turku, Finland, 1965; PhD, 1966.
- Baer, Martha**, Instructor
AB, University of Indiana, 1976.
- Bahr, Gunter F.**, Professor
MD, University of Wurzburg, Germany, 1952.
- Baldwin, Anna**, Instructor (Medical Technology)
BS, George Washington University, 1973.

- Barrett, Lucinda**, Assistant Professor (tissue culture)
BA, University of Connecticut, 1963; MA, University of Kansas, 1966.
- Bastian, Frank O.**, Associate Professor (neuropathology)
BA, University of Saskatchewan, 1960; MD, 1964.
- Bauer, Frederick W.**, Assistant Professor
BA, University of Colorado, 1957; MD, Albany Medical College, 1962.
- Berezesky, Irene K.**, Research Associate
BA, Boston University, 1958.
- Bhagavan, Belur S.**, Assistant Professor
MBBS, R. G. Kar Medical College, Calcutta, 1958.
- Block, Ronald M.**, Associate
BA, University of Alaska, 1967; MS, University of North Dakota, 1972; PhD, 1974.
- Breitnecker, Rudiger**, Assistant Professor
MD, University of Vienna, 1954.
- Brown, Charles**, Assistant Professor
AB, Princeton University, 1954; MD, University of Pennsylvania, 1958.
- Caplan, Yale H.**, Clinical Associate Professor (toxicology)
BS, University of Maryland, 1963; PhD, 1968.
- Cartwright, Willie Q.**, Assistant Professor (Medical Technology)
BS, Howard University, 1959; MS, State University of New York, 1972.
- Chang, Seung-Han**, Instructor
BS, Kyung Hec University, Seoul, Korea, 1963; MS, 1969.
- Cherng, Ai-Shuan S.**, Instructor
BS, National Taiwan University, Republic of China, 1969; MS, Indiana University, 1974.
- Combs, John W.**, Associate Professor
BA, University of Washington, 1955; MD, 1964; PhD, 1968.
- Constantine, Neil T.**, Instructor (Medical Technology)
BS, University of Maryland, 1974.
- Costello, Dolores C.**, Instructor (Medical Technology)
BS, Mount Saint Agnes College, 1969.
- Cranley, Robert E.**, Assistant Professor
BS, University of Maryland, 1956; MD, 1968.
- Crooks, Clint R.**, Assistant Professor
BS, University of Maryland, 1969; PhD, 1976.
- Cummings, Benjamin E.**, Associate
BS, California Institute of Technology, 1955; MS, 1956; AeE, 1957; PhD, 1962.
- David, Raffaele**, Instructor (anatomical pathology)
MD, University of Bologna, 1963.
- Dawson, R. Ben**, Professor (blood bank)
AB, BS, Hampden-Sydney College, 1958; MD, University of Virginia, 1963.
- Dhar, Jyotsna K.**, Assistant Professor
BS, Calcutta University, 1956; MD, Nilratan Sircar Medical College, 1962.
- Dixon, Ann M.**, Assistant Professor (forensic pathology)
MD, University of Edinburgh, 1966.
- Dobrow, David A.**, Assistant Professor
BA, University of Virginia, 1961; MD, 1965.
- Duncan, Craig E.**, Instructor
BS, University of Washington, 1965; MD, 1969.
- El Gerzawi, Shadia M.**, Research Assistant
MB, BCh, Cairo University, 1969; MS, 1974, PhD, 1978.
- Fazekas, Victor A.**, Assistant Professor
MD, George Washington University, 1960.
- Fisher, Russell S.**, Professor (forensic pathology)
BS, Georgia School of Technology, 1937; MD, Medical College of Virginia, 1942.
- Goldblatt, Peter J.**, Professor
AB, Case Western Reserve University, 1955; MD, 1959.
- Graham, Richard R.**, Assistant Professor
BS, Louisiana University, 1968.
- Griffey, Vivian W.**, Instructor (Medical Technology)
BS, University of Maryland, 1974; MS, Thomas Jefferson University, 1979.
- Griggs, E. Allen**, Assistant Professor
BA, Virginia Military Institute, 1964; MD, University of Virginia, 1968.

- Grimley, Philip M.**, Professor
BS, The City College of New York; 1956; MD, Albany Medical College, 1961.
- Guard, Hormez R.**, Assistant Professor
MBBS, University of Bombay, 1948; MD, 1951.
- Guerin, Paul F.**, Assistant Professor (forensic pathology)
AB, Wittenburg College, 1942; MD, University of Pennsylvania, 1945.
- Hafiz, Mohammad**, Clinical Associate
HSc, Dacca College, 1965; MD, 1972.
- Hall-Craggs, Mary**, Clinical Associate Professor (autopsy)
MBBS, The London School of Medicine for Women, 1950.
- Hansch, Gertrude**, Research Associate
MS, Heidelberg University, 1974; PhD, 1976.
- Harmening, Denise M.**, Instructor (Medical Technology)
MS, MT(ASCP), BS, University of Maryland, 1974; MS, 1976.
- Harr, Robert R.**, Assistant Professor (Medical Technology)
BS, Kent State University, 1971; MS, Ohio State University, 1976.
- Heatfield, Barry M.**, Assistant Professor
BA, University of California, 1962; PhD, 1969.
- Henriksen, Bruce B.**, Associate
BS, University of Florida, 1964; MS, 1966; PhD, 1968.
- Hess, Helene**, Associate
BS, Saint Joseph College, 1965.
- Hicken, William J.**, Assistant Professor
BA, Loyola College, 1954; MD, University of Maryland, 1958.
- Hillman, Elizabeth A.**, Assistant Professor (electron microscopy)
BA, Russell Sage College, 1960; PhD, Duke University, 1972.
- Hinton, David**, Assistant Professor
BS, Mississippi College, 1965; MS, University of Mississippi, 1967; PhD, 1969.
- Hudson, Sue A.**, Assistant Professor
BA, Southern Illinois University, 1963; MA, 1965; PhD, University of Texas, 1972.
- Iseri, Oscar A.**, Professor (anatomical pathology)
BS, Antioch College, 1952; MD, Harvard University, 1956.
- Jiji, Rouben M.**, Assistant Professor (clinical pathology)
MD, Royal College of Medicine, Baghdad, Iraq, 1950.
- Jiji, Violet**, Assistant Professor
MD, Royal College of Baghdad, 1950.
- Jones, Raymond T.**, Associate Professor
BS, Old Dominion University, 1968; MS, University of Delaware, 1970; PhD, University of Maryland, 1974.
- Kahng, Myong W.**, Assistant Professor (biochemistry)
BS, Seoul National University, 1957; MS, University of Maryland, 1962; PhD, 1967.
- Kaiser, Hans E.**, Research Associate Professor
PhD, University of Tuebingen, 1958.
- Kim, Kook M.**, Associate Professor (anatomical pathology)
MD, Seoul National University, 1960.
- Kime, Watson P.**, Assistant Professor
BSc, University of Wales, 1950; MB, BCH, Welsh National School of Medicine, 1953.
- King, Walter B., Jr.**, Assistant Professor
AB, University of California, 1948; MD, Stanford University, 1954.
- Knoblock, Edward C.**, Associate Professor (clinical chemistry)
AB, Western State College of Colorado, 1942; MS, University of Maryland, 1959.
- Koch, Thomas R.**, Assistant Professor (clinical pathology)
BS, Lebanon Valley College, 1966; PhD, University of Maryland, 1970.
- Kolaja, Gerald J.**, Associate
BS, Michigan State University, 1965; DVM, 1967; PhD, University of Maryland, 1977.
- Kula, Theodore J.**, Assistant Professor (Medical Technology)
BS, University of Dayton; MS, 1970; PhD, University of Kentucky, 1977.
- Laiho, Kauno U.**, Associate Professor
MD, University of Helsinki, 1967.
- Lancaster, Robert G.**, Assistant Professor
BS, Gonzaga University, 1952; MD, University of Maryland, 1955.
- Lau, Francis**, Assistant Professor (Medical Technology)
BA, University of California at San Diego, 1970; PhD, Duke University, 1976.

- Linberg, Steven E.**, Assistant Professor
BA, University of Delaware, 1973; MS, Pennsylvania State University, 1975; PhD, 1978.
- Lindado, Ramiro R.**, Assistant Professor
MD, Javeriana University, 1968.
- Ling, Virginia**, Assistant Professor
MD, University of Madrid, University of Zaragoza, Spain, 1961.
- Lipsky, Michael M.**, Assistant Professor
BS, Villanova University, 1973; PhD, University of Maryland, 1979.
- Lucas, Carolyn**, Instructor
MAT, The Citadel, South Carolina, 1976.
- Masters, Jason M.**, Associate Professor and Director, Medical Technology Program
BA, High Point College, 1951; MA, Sul Ross State College, 1956; PhD, University of Maryland, 1965.
- McDowell, Elizabeth M.**, Professor
BVet Med, Royal Veterinary College, University of London, 1964; BA, University of Cambridge, 1968; PhD, 1971.
- McMichael, Joseph**, Instructor (medical technology)
BS, University of Maryland, 1975; MS, 1980.
- Merenyi, Dezso K.**, Associate Professor
MD, Pecs, Hungary, 1944.
- Mergner, Wolfgang J.**, Professor
MD, Justus Liebig University, Giessen, Germany, 1961; PhD, Duke University, 1975.
- Merryman, Ginny M.**, Associate 1978.
BA, Western Maryland College, 1976; MS, University of Maryland, 1978; PA, 1978.
- Middlebrook, Gardner**, Professor
AB, Harvard College, 1938; MD, 1944.
- Moore, Samuel**, Clinical Associate (clinical pathology)
BS, Morgan State College, 1953; MS, University of California, 1973.
- Mostofi, Fathollah F.**, Professor
BS, University of Nebraska, 1935; MD, Harvard Medical School, 1939.
- Nipper, Henry**, Assistant Professor (clinical pathology)
AB, Emory University, 1960; MS, Purdue University, 1966; PhD, University of Maryland, 1971.
- Orbegoso, Carlos M.**, Assistant Professor
MD, San Marcos University, 1961.
- Orloff, Kenneth G.**, Clinical Assistant Professor (forensic pathology)
BS, Pennsylvania State University, 1969; MS, 1971; PhD, University of California, 1976.
- Osornio, Alvaro**, Research Associate
MD, National University of Mexico, 1978.
- Oster, Walter F.**, Associate Professor
BS, University of Maryland, 1956; MD, 1961.
- Pawar, Vinayak B.**, Instructor
BS, University of Bombay, 1966; MS, University of Missouri, 1973; PhD, University of Kentucky, 1977.
- Pendergrass, Robert**, Research Associate
University of North Carolina.
- Penttila, Matti A.**, Assistant Professor
MD, University of Helsinki, 1964.
- Petrucci, John**, Assistant Professor
BS, Fordham University, 1952; MD, University of Geneva, 1957.
- Phelps, Patricia C.**, Research Associate
AB, Brown University, 1952.
- Pool, Charlotte R.**, Instructor (histopathology)
University of Louisville.
- Purnell, Dallas M.**, Associate Professor
BS, University of Puget Sound, 1963; MS, Idaho State University, 1965; PhD, University of Washington, 1971.
- Rasmussen, Peter**, Professor (clinical pathology)
MD, Temple University, 1952.
- Reggiardo, Zulema R.**, Associate Professor
BS, College National Rosario, Argentina, 1951; PhD, University National of Litoral, Argentina, 1958.
- Resau, James H.**, Research Associate
BA, Western Maryland College, 1968; MS, University of Maryland, 1978.

- Rubin, H. Robert**, Assistant Professor
BA, Emory University, 1967; MD, University of Florida, 1971.
- Saladino, Andrew J.**, Associate Professor (anatomical pathology)
BS, Georgetown University, 1960; MD, 1964.
- Sato, Mamoru**, Research Associate
MD, Kyoto University Medical School, Japan, 1967; PhD, 1979.
- Sato, Toshihide**, Research Associate
MD, Nagoya City University, 1961; MS, 1963.
- Schurch, Walter**, Associate
MD, University of Zurich, 1968.
- Seiguer, Alberto C.**, Clinical Associate Professor (clinical pathology)
MD, University of Buenos Aires, 1967.
- Seiguer, Amalia E.**, Assistant Professor (clinical pathology)
MD, University of Buenos Aires, 1962.
- Shamsuddin, Abulkalam M.**, Assistant Professor (anatomical pathology)
HSc, Notre Dame College, Bangladesh, 1965; MD, University of Dacca, 1972.
- Sheehan, John P.**, Assistant Professor
AB, Seton Hall University, 1961; MD, New Jersey College of Medicine, 1956.
- Sheffield, Warren D.**, Assistant Professor
BA, Johns Hopkins University, 1971; VMD, University of Pennsylvania School of Veterinary Medicine, 1975; PhD, University of Pennsylvania, 1977.
- Sherrer, Edward L., Jr.**, Assistant Professor
BS, Bowling Green State University, 1952; MSc, Ohio State University, 1953; MD, 1958.
- Shin, Moon L.**, Associate Professor
MD, Soo Do Medical College, Seoul, Korea, 1962.
- Smith, Andrew G.**, Professor (microbiology)
BS, Pennsylvania State College, 1940; MS, University of Pennsylvania, 1947; PhD, 1950.
- Smith, Mary A.**, Research Associate
BA, West Virginia University, 1961; MS, 1963.
- Sternberger, Ludwig A.**, Professor
BA, American University of Beirut, 1941; MD, 1945.
- Stout, David A.**, Clinical Assistant Professor
BA, Columbia Union College, 1958; MS, Loma Linda University, 1961; MD, 1964.
- Sun, Chen-Chih J.**, Assistant Professor (anatomical pathology)
MD, National Taiwan University, 1970.
- Sutherland, John C.**, Associate Professor
AB, Northwest Nazarene College, 1941; MD, Marquette, 1946.
- Symonds, David A.**, Assistant Professor
BS, Tufts University, 1966; MD, Yale University, 1970.
- Taddie, Sandra**, Instructor (medical technology)
MS, University of Maryland, 1977.
- Tang, Chik-Kwun**, Associate Professor (surgical pathology)
MD, National Defense Medical Center, Taipei, Taiwan, 1967.
- Taylor, James E.**, Assistant Professor
BS, University of Maryland, 1956; MD, 1958.
- Tenney, James H.**, Assistant Professor
AB, Harvard College; MD, Harvard Medical School, 1970.
- Thompson, Bernard C.**, Assistant Professor
BS, Mount Saint Mary's College, 1970; PhD, University of Maryland, 1976.
- Tiamson, Esperanza**, Assistant Professor
MD, University of Santo Tomas, 1954.
- Tigertt, William D.**, Professor (clinical pathology)
MD, Baylor University, 1937; AB, 1938.
- Toker, Cyril**, Professor (surgical pathology)
MD, University of the Witwatersrand Medical School, 1951; MCh, 1962.
- Toll, M. Wilson**, Associate Professor
MSc, McGill University, 1935; MD, 1940.
- Trump, Benjamin F.**, Professor and Chairman
BA, University of Missouri, 1953; MD, University of Kansas, 1957.
- Valdes-Dapena, Marie**, Adjunct Professor
BS, Immaculata College, 1941; MD, Temple University, 1944.
- Valerio, Marion G.**, Assistant Professor
BS, Michigan State University, 1959; DVM, 1961.

- Vanguri, Padmavathy**, Research Associate (medical technology)
BS, Women's Christian College, India, 1976; MS, University of Madras, India, 1978.
- Velandia, Fernando A.**, Instructor
BS, Agustinian College, Colombia, 1964; MD, Javeriana University, 1971.
- Vigorito, Robert D.**, Associate
BA, Southern Connecticut State College, 1970; MS, Quinnipiac College, 1976.
- Wenk, Robert E.**, Associate Professor
BA, New York University, 1959; MD, University of Louisville, 1963.
- Williams, Mary**, Instructor (medical technology)
BS, University of Maryland, 1977.
- Wilson, Johanna E.**, Instructor (medical technology)
BS, University of Maryland 1974.
- Zaman, Abu N.F.**, Assistant Professor (clinical pathology)
MBBS, Dacca University, 1955.

PEDIATRICS

- Ashman, Ruth**, Instructor
BA, Barnard College, 1965; MD, New York University, 1969.
- Ault, Virginia L.**, Assistant Professor
RN, Union Memorial Hospital, 1945; BS, University of Maryland, 1950; MD, University of Vermont College of Medicine, 1959.
- Baldwin, Ruth W.**, Clinical Professor and Director, Exceptional Child Clinic
BS, University of Maryland, 1942; MD, 1943.
- Balis, Sophia**, Associate Professor, Community Pediatric Center
DDS, University of Toronto, 1966.
- Bauernschub, Marbry G.**, Clinical Instructor
BS, Loyola College, 1950; MD, University of Maryland, 1954
- Beltran, Teresita S.**, Instructor, Community Pediatric Center
BS, University of Philippines, 1963; MD, 1968.
- Berger, Martin**, Instructor
MD, Faculty of Medicine, University of Toronto, 1957.
- Bergey, Stefanie F.A.**, Instructor, Pediatric Psychology
BA, Douglass College, 1971; PhD, University of Pennsylvania, 1976.
- Berman, Michael A.**, Professor and Director, Pediatric Cardiology
MD, State University of New York Upstate, 1967.
- Berman, Wulfred**, Assistant Professor
MB ChB, University of Capetown, 1958; DTM & H, University of Liverpool, 1962.
- Bernstein, LeRoy**, Clinical Instructor
BA, Colorado University, 1959; MD, George Washington University, 1968.
- Besson, Edwin H.T.**, Clinical Instructor
BS, Washington College, 1950; MD, University of Maryland, 1954.
- Bierenbaum, Howard**, Clinical Assistant Professor, Child Psychology
BA, Yale University, 1970; MA, University of Rochester, 1973; PhD, 1975.
- Black, Jeffrey L.**, Assistant Professor, Behavioral Pediatrics
AB, Miami University of Ohio, 1971; MD, Ohio State University, 1975.
- Black, Maureen M.**, Clinical Instructor
BA, Pennsylvania State University, 1967; MS, University of Southern California, 1973; PhD, Emory University, 1977.
- Bradley, J. Edmund**, Professor Emeritus
BS, Loyola College, 1928; MD, Georgetown University, 1932.
- Brahlek, James A.**, Clinical Instructor
BA, Indiana University, 1965; MA, Southern Illinois University, 1967; PhD, 1969.
- Brenner, Arnold**, Clinical Instructor
Premed, Loyola College, 1956; MD, University of Maryland, 1960.
- Brenner, Joel I.**, Assistant Professor, Pediatric Cardiology
BA, University of Pennsylvania, 1966; MD, New York Medical College, 1970.
- Brodell, Robert**, Clinical Professor
BA, Washington and Jefferson College, 1953; MD, Western Reserve University, 1957.
- Bromberg, David**, Assistant Professor, Behavioral Pediatrics
BA, State University of New York, Binghamton, 1969; MD, Tulane University School of Medicine, 1973.
- Bryant, William A., Jr.**, Clinical Instructor
BA, Clark College, 1964; MD, SUNY at Buffalo, 1975.

- Buckley, Kathleen M.**, Instructor, Adolescent Medicine
BS, University of Maryland, 1973; MS, 1976.
- Burgan, Paul**, Assistant Professor
BS, University of Maryland, 1958; MD, 1962; PhD, Boston University, 1967.
- Caplan, Lester**, Clinical Assistant Professor
AB, Johns Hopkins University, 1936; MD, University of Maryland, 1940.
- Caplan, Steven**, Clinical Instructor
BA, New York University, 1971; MD, University of Rochester, 1975.
- Charney, Evan**, Clinical Professor
AB, Cornell University, 1954; MD, Albert Einstein College of Medicine, 1960.
- Cheung, Kwok-Sing**, Assistant Professor
MSc, University of Manitoba, 1968; PhD, University of Saskatchewan, 1971.
- Cicci, Regina**, Clinical Assistant Professor
BS, Kent State, 1960; MA, Northwestern University, 1961.
- Clemmens, Raymond L.**, Professor and Director, Central Evaluation Clinic
BS, Loyola College, 1947; MD, University of Maryland, 1951.
- Cornblath, Marvin**, Professor
MD, Washington University School of Medicine, Saint Louis, 1947.
- Davens, Edward**, Associate Professor
AB, Stanford University, 1932; MD, 1938.
- Dawson, Robert**, Clinical Assistant Professor
BS, University of Maryland, 1956; MD, 1959.
- Deane, Garrett E.**, Instructor
AB, Westminster College, 1943; MD, Washington University, 1946.
- Delta, Basil G.**, Clinical Assistant Professor
Premed., University of Istanbul, 1947; MD, 1952; MPH, Johns Hopkins University, 1975.
- Detering, Nancy**, Research Assistant Professor, Pediatric Research
BS, Wilamette University, 1968; PhD, University of Arizona, 1974.
- Eshai, Rupla**, Clinical Instructor
FSc, Gordon College, West Pakistan, 1956; MBBS, Christian Medical College, India, 1962.
- Farah, J. Ramsay**, Instructor
BS, University of Beirut, 1966; MD, American University, Beirut, 1972; MPH, Johns Hopkins University, 1975.
- Felix, Jacob K.**, Instructor
BS, University of Wisconsin, 1967; MD, 1971.
- Ferencz, Charlotte**, Associate Professor
BS, McGill University, 1944; MD, 1945; MPH, Johns Hopkins University, 1970.
- Ferra, Peter**, Instructor, Community Pediatric Center
BA, Rutgers University, 1969; MD, New Jersey College of Medicine and Dentistry, 1973.
- Fine, Eric M.**, Clinical Assistant Professor
AA, George Washington University, 1963; MD, University of Maryland, 1967; MPH, Johns Hopkins University, 1972.
- Fineman, Jerome**, Assistant Professor
MD, University of Maryland, 1933.
- Fleming, Gary**, Assistant Professor
BS, Franklin and Marshall, 1957; MD, University of Maryland, 1966.
- Fortier, Dwight**, Instructor
BA, University of Maryland, 1962; MD, 1966.
- Fox, Mary A.**, Clinical Assistant Professor
AB, Woman's College, University of North Carolina, 1944; MD, University of Pennsylvania, 1948.
- Frances, Earlie**, Instructor
BS, Howard University, 1960; MD, University of Maryland, 1964.
- Friedman, Stanford B.**, Professor and Director, Child & Adolescent Psychiatry
BA, Antioch College, 1953; MD, University of Rochester, 1957.
- Furth, Mary L.**, Assistant Professor
BS, University of Maryland, 1953; MD, 1957; MPH, Johns Hopkins University, 1972.
- Glaser, Kurt**, Clinical Associate Professor, Child Psychiatry
MD, University of Lausanne, 1939; MSc, University of Illinois, 1948.
- Glick, Samuel S.**, Professor Emeritus
BA, Johns Hopkins University, 1920; MD, University of Maryland, 1925.
- Gordon, Albert**, Instructor
BS, University of Maryland, 1960; MD, 1964.

- Gorton, Martin K.**, Associate Professor
BA, Western Maryland College, 1943; MD, University of Maryland, 1949.
- Goshorn, Gary S.**, Instructor
AB, Johns Hopkins University, 1951; MD, University of Maryland, 1955.
- Graham, David B.**, Assistant Professor, School Health Program
BS, Allegheny College, 1964; MD, University of Rochester, 1970.
- Grant, John A.**, Clinical Associate Professor
BA, Gettysburg College, 1953; MD, University of Pennsylvania Medical School, 1957; MPH, Johns Hopkins University, 1969.
- Green, Karl M.**, Instructor
BS, University of Maryland, 1955; MD, 1959.
- Grice, Rowena C.**, Instructor, Adolescent Medicine
BA, West Virginia State College, 1969; MSW, Howard University, 1973.
- Grossman, Lindsey K.**, Clinical Instructor
AB, Boston University, 1972; MD, 1975.
- Grubb, Wilson**, Associate Professor
AB, Johns Hopkins University, 1932; MD, 1937.
- Guarnieri, Susan**, Instructor
BS, Saint Mary's of the Springs College, 1963; MD, Ohio State, 1966; MPH, Johns Hopkins University, 1969.
- Gumbinas, Maria T.**, Assistant Professor, Pediatric Neurology
BA, University of Chicago, 1963; MD, 1966.
- Gutberlet, Ronald L.**, Associate Professor and Director of Nurseries
BA, Washington and Lee University, 1956; MD, University of Maryland, 1961.
- Harpin, R. Edward, Jr.**, Clinical Assistant Professor
BA, Boston College, 1969; MA, Stanford University, 1972; PhD, SUNY at Stony Brook, 1978.
- Heald, Felix P.**, Professor and Director, Adolescent Medicine
AB, Colorado College, 1943; MD, University of Pennsylvania, 1946.
- Hecker, Alvin W.**, Instructor
BA, Johns Hopkins University, 1951; MD, University of Maryland, 1955.
- Heisler-Hayes, Alice B.**, Clinical Assistant Professor, Central Evaluation Clinic and Co-director, Behavioral Pediatrics
AB, University of Maryland, 1959; MD, 1963.
- Heldrich, Frederick**, Clinical Assistant Professor
AB, Gettysburg College, 1945; MD, University of Maryland, 1948.
- Hepner, W. Ray**, Professor, Community Pediatric Center
BS, University of Chicago, 1943; MD, 1944; MPH, Johns Hopkins University, 1978.
- Hill, J. Laurance**, Clinical Associate Professor
BA, Ohio Wesleyan University, 1957; MD, Ohio State, 1961.
- Holcomb, Thomas**, Clinical Assistant Professor
MD, University of Vermont, 1947.
- Holthaus, Robert**, Instructor
BA, University of Maryland, 1961; MD, 1965.
- Hopkins, Edward W.**, Clinical Assistant Professor
MD, Johns Hopkins University, 1949.
- Howard, Lenore W.**, Assistant Professor, Central Evaluation Clinic
BA, University of Connecticut, 1957; MA, University of New Hampshire, 1959.
- Howell, Clewell**, Associate
BS, Davidson College, 1919; MD, University of Maryland, 1924.
- Huang, Shih-Wen**, Associate Professor and Director, Pediatric Allergy/Immunology
MD, National Taiwan University, 1962.
- Hudson, Barbara W.**, Associate Professor, Central Evaluation Clinic
AB, Cornell University, 1949; RN, Columbia Presbyterian School of Nursing, 1952; MD, College of Physicians and Surgeons, New York, 1956.
- Hunt, Thomas**, Instructor, Community Pediatric Center
BA, Marist College, 1969; MS, University of Maryland, 1974; PhD, 1977.
- Irwin, Robert C.**, Associate Professor
AB, Georgetown University, 1953; MD, University of Maryland, 1959.
- Jacobson, Marc S.**, Assistant Professor
BA, Kansas University, 1969; MD, 1973.
- Josephs, David**, Instructor
MD, Medical College of Virginia, 1947.

- Kaiser, Theodore H.**, Clinical Associate Professor, Child Psychiatry
MD, Johns Hopkins University, 1949.
- Kappelman, Murray M.**, Professor
BS, University of Maryland, 1951; MD, 1955.
- Karahasan, Alp**, Assistant Professor
MD, Hacettepe University School of Medicine, Turkey, 1968; PhD, 1973.
- Kaufman, Felix L.**, Instructor
BA, Franklin and Marshall, 1965; MD, University of Maryland, 1969.
- Kenny, Thomas J.**, Associate Professor and Director, Pediatric Psychology
AB, Washington and Lee University, 1954; MA, George Peabody College for Teachers, 1959;
PhD, Catholic University, 1969.
- Khan, Misbah**, Associate Professor and Director, Pediatric Primary Care Program
MBBS, King Edward Medical College, 1952; MPH, Johns Hopkins University, 1970.
- Klein, Donald**, Instructor
AB, Johns Hopkins University, 1949; MD, Yale University School of Medicine,
- Klein, Howard**, Assistant Professor
BA, Yeshiva University, 1969; MD, State University of New York, Downstate, 1973.
- Krager, John**, Clinical Assistant Professor
BS, Loyola College, 1948; MD, University of Maryland, 1952; MPH, Johns Hopkins University, 1965.
- Lang, David J.**, Professor and Chairman
AB, Swarthmore College, 1954; MD, Harvard Medical School, 1958.
- Lang, Richard C.**, Instructor
BS, University of Maryland, 1955; MD, 1959.
- Lavy, Richard**, Assistant Professor
BS, Franklin and Marshall, 1956; MD, University of Maryland, 1960.
- Layton, Richard**, Clinical Instructor
BA, University of Richmond, 1965; MD, University of Virginia, 1968.
- Leffler, Allan T., III**, Instructor
BS, Iowa State, 1962; MD, Johns Hopkins University, 1966.
- Lentz, George A., Jr.**, Professor and Director, Mental Retardation Program
AB, Johns Hopkins University, 1953; MD, University of Maryland, 1957.
- Levine, Myron M.**, Assistant Professor
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- Nair, Prasanna**, Associate Professor and Medical Director, Community Pediatric Center
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- Sigman, Bernice**, Assistant Professor, Genetics
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- Sinton, William A., Jr.**, Instructor
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- Weber, Ralph**, Instructor
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- Wolff, F. Theodore**, Instructor
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- Woodward, Celeste L.**, Assistant Professor
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BS, University of Dayton, 1965; PhD, Michigan State University, 1970.
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BS, University of Illinois, 1964; PhD, Michigan State University, 1968.
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PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

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BS, University of Liverpool, 1964; MS, 1965; PhD, University of California, 1970.
- Brodie, Angela M.H.**, Research Associate Professor
BS, University of Sheffield, 1956; MS, 1959; PhD, University of Manchester, 1961.
- Brookes, Neville**, Associate Professor
MPS, Bath University, U.K., 1962; PhD, Leeds University Medical School, U.K., 1967.
- Burt, David**, Assistant Professor
AB, Amherst College, 1965; PhD, Johns Hopkins University, 1972.
- Byron, Joseph W.**, Professor
BS, Fordham University, 1952; MS, Philadelphia College of Pharmacy and Science, 1955; PhD, University of Buffalo, 1959.
- Daly, John W.**, Adjunct Professor
BS, Oregon State College, 1954; MA, 1955; PhD, Stanford University, 1958.
- Deshpande, Sharad S.**, Assistant Professor
B.Pharm., Gujrat University, India, 1954; MS, University of Southern California, Los Angeles, 1958; PhD, University of Florida, 1965.
- Eldefrawi, Amira T.**, Research Professor
BS, University of Alexandria, Egypt, 1957; PhD, University of California, Berkeley, 1960.
- Eldefrawi, Mohyee E.**, Professor
BS, University of Alexandria, Egypt, 1953; PhD, University of California, Berkeley, 1960.
- Jasinski, Donald R.**, Adjunct Professor
MD, University of Illinois, 1963.
- Kauffman, Frederick C.**, Professor
BA, Knox College, 1958; PhD, University of Illinois, 1965.
- Krantz, John C., Jr.**, Professor Emeritus
BS, University of Maryland, 1923; MS, 1924; PhD, 1928.
- Maleque, Mohammed A.**, Research Assistant Professor
DVM, University of Myemensingh, Bangladesh, 1966; MS, Pharm., 1968; MS, Physiology, 1973; PhD, University of Strathclyde, UK, 1976.
- Matthews, John**, Research Associate
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- Oliveira, Laerte**, Visiting Research Assistant Professor
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- Snow, Robert W.**, Research Associate
BA, University of California, Santa Barbara, 1972; PhD, Washington University, Seattle, 1978.
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- Tamburini, Alice, M.M.**, Visiting Research Associate Professor
PhD, University of Sao Paulo, Brazil, 1972.
- Tamburini, Jr., Roque**, Visiting Research Professor
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BS, Massachusetts College of Pharmacy, 1963; PhD, Purdue University, 1968.
- Weinreich, Daniel**, Associate Professor
BS, Bethany College, 1964; PhD, University of Utah, 1970.
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PHYSIOLOGY

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BS, University of Vermont, 1965; MS, 1967; PhD, Rutgers University, 1972.
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- Blaustein, Mordecai P.**, Professor and Chairman
BA, Cornell University, 1957; MD, Washington University, 1962.

- Channing, Cornelia P.**, Professor
BA, Hood College, 1961; MA, Harvard University, 1963; PhD, 1965; ScD (honorary), Hood College, 1972.
- Fajer, Abram B.**, Professor
MD, University of Sao Paulo, 1951.
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BEE, The Cooper Union, 1949; MSE, Johns Hopkins University, 1954; DEng, 1960.
- Goldman, Lawrence**, Professor
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- Greisman, Sheldon E.**, Professor
MD, New York University, 1949.
- Horn, Lyle W.**, Assistant Professor
BS, University of Colorado, 1966; PhD, Johns Hopkins University, 1973.
- Krueger, Bruce K.**, Assistant Professor
BS, Yale University, 1970; PhD, 1975.
- Lederer, W. Jonathan**, Assistant Professor
BA, Harvard University, 1970; PhD, Yale University, 1975; MD, 1976.
- Nachshen, Daniel A.**, Assistant Professor
BSc, Hebrew University of Jerusalem, 1970; PhD, Tel-Aviv University Medical School, 1979.
- Ormsbee, Herbert S., III**, Assistant Professor
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- Smith, Dietrich C.**, Professor Emeritus
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BS, Universidad Peruana Cayetano Heredia, 1971; MD, 1972; MS, 1973.
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PRIMARY CARE PROGRAMS

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Medicine

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MD, University of Madrid, 1966.
- Gray, Darrell**, Instructor of Medicine
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- Hardesty, Daniel C.**, Assistant Professor of Medicine
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BS, University of Maryland, 1970; MD, 1974.
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BS, University of Notre Dame, 1973; MD, University of Pennsylvania, 1977.
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Nursing

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Pediatrics

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Pharmacy

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Social Work

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PSYCHIATRY

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- David, Henry P.**, Clinical Associate Professor (psychology)
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- Davis, Nathan**, Clinical Assistant Professor
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- DeFraites, Emanuel G.**, Assistant Professor
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- Duffy, Franklin**, Instructor
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- Dvoskin, Philip**, Clinical Instructor
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- Einberg, Elmar**, Research Associate
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- Evans, Margaret**, Research Associate
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- Geser, Marcia A.**, Research Associate
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- Gibson, Robert W.**, Clinical Associate Professor
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- Glaser, Kurt R.**, Clinical Associate Professor
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- Godenne, Ghislaine D.**, Clinical Associate Professor (child psychiatry)
BS, University of Louvain, Belgium, 1948; MD, 1952.
- Gold, Allan S.**, Clinical Assistant Professor-
MD, University of Maryland, 1976.
- Gold, Stuart**, Clinical Assistant Professor
MD, University of Maryland, 1976.
- Goldston, Stephen E.**, Clinical Associate Professor
BA, New York University, 1952; MSPH, Columbia University, 1953; MA, 1957; EdD, 1958.
- Gordon, Bernard S.**, Assistant Professor
AB, University of Michigan, 1937; MD, University of Louisville, 1942.
- Goshen, Charles**, Assistant Professor
BA, Columbia College, 1964; MD, West Virginia University, 1968.
- Graham, David B.**, Assistant Professor
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- Gray, Sheila Hafter**, Clinical Associate Professor
BA, Brooklyn College, 1950; MA, New School of Social Research, 1954; MD, Harvard Medical School, 1958.
- Grenell, Robert G.**, Professor (neurobiology)
BS, College of the City of New York, 1935; MS, New York University, 1936; PhD, University of Minnesota, 1943.
- Gross, Herbert S.**, Professor
BA, Yeshiva College, 1956; MD, Albert Einstein College of Medicine, 1960.
- Haley, Cloe M.**, Assistant Professor (psychology)
Licenciada in Psychology, University of Buenos Aires, 1965.
- Haley, Jay D.**, Clinical Professor
BA, University of California, Los Angeles, 1948; BLS, University of California, 1951; MA, Stanford University, 1953.
- Hamilton, John**, Instructor
BA, Pacific Union College, 1943; MD, Howard University, 1951.
- Hanlon, Thomas**, Research Associate
BA, Catholic University, 1951; MA, 1953; PhD, 1958.
- Haran, Judith F.**, Assistant Professor (psychiatric social work)
BA, University of Maryland, 1969; MSW, 1973.
- Harbin, Henry T.**, Assistant Professor
BA, University of Virginia, 1968; MD, Medical College of Georgia, 1972.
- Harris, Roger**, Clinical Assistant Professor
AB, University of Maryland, 1961; MD, 1968.
- Hastings, Brian W.**, Assistant Professor
BA, Haverford College, 1971; MD, University of Virginia, 1976.
- Heinrichs, Douglas W.**, Assistant Professor
BS, Georgetown University, 1972; MD, 1976.
- Heisler-Hayes, Alice B.**, Assistant Professor
AB, University of Maryland, 1959; MD, 1963.
- Herman, Rochelle**, Clinical Assistant Professor
BS, University of Maryland, 1971; MD, 1975.
- Herron, John David**, Research Associate
AA, Holy Family Seminary, 1968; MSW University of Maryland, 1975.
- Herts, John B.**, Assistant Professor
BA, Rutgers University, 1961; MD, Georgetown University, 1966.
- Hertzberg, Leonard J.**, Clinical Assistant Professor
BA, Lehigh University, 1961; MD, Tufts University, 1965.
- Hiller, Gail**, Instructor
BSN, University of Maryland, 1967.
- Holden, William**, Clinical Associate Professor
BS, Marquette University, 1948; MD, 1952.
- Holder, William L.**, Clinical Assistant Professor
AB, Emory University, 1949; MD, University of Maryland, 1953.
- Horrom, Nancy**, Research Associate
AB, College of William and Mary, 1972.

- Huffer, Virginia**, Professor
BS, University of Maryland, 1940; MD, 1950.
- Hulfish, Barbara**, Clinical Assistant Professor (neurology)
BA, American University, 1944; MD, University of Rochester, 1952.
- Hunt, Gerard**, Associate Professor (sociology)
BS, Fordham University, 1959; MA, Emory University, 1962; PhD, University of North Carolina, 1969.
- Hunt, Lorraine L.**, Clinical Assistant Professor of Humanities
BA, Amherst College, 1954; MA, University of North Carolina, 1958; PhD, 1965.
- Imboden, John B.**, Clinical Associate Professor
University of Notre Dame, 1946; MD, Johns Hopkins University, 1950.
- Jencks, Stephen F.**, Clinical Assistant Professor
AB, Harvard University, 1962; MD, 1967.
- Johnson, Frank P.**, Clinical Assistant Professor
BS in Ed., Ballstate University, 1957; MDiv., Andover Newton Theological School, 1961.
- Johnston, Daniel F.**, Clinical Assistant Professor
AB, Princeton University, 1952; MD, University of Maryland, 1956.
- Jonas, Alan**, Clinical Assistant Professor
AB, Johns Hopkins University, 1967; MD, New York University, 1971.
- Jones, Norma**, Assistant Professor (psychiatric social work)
AB, Morgan State College, 1957; MSW, Howard University, 1965.
- Kaiser, Theodore**, Clinical Assistant Professor
BS, Johns Hopkins University, 1945; MD, 1949.
- Karahasanoglu, Alp**, Assistant Professor
MD, Hacettepe University, Ankara, Turkey, 1968; PhD, Biochem, 1970.
- Keller, Kenneth**, Research Associate
BA, Northeastern, 1971; MA, New York University, 1973; PhD, 1976.
- Kelly, Ralph Gerard**, Instructor
BA, Saint Mary's Seminary, 1965; MTh, Saint Mary's Institute of Theology; BA, University of Maryland, 1973.
- Kemp, Katherine**, Assistant Professor
AB, College of Notre Dame of Maryland, 1943; MD, University of Maryland, 1948.
- Kenny, Thomas J.**, Assistant Professor
AB, Washington and Lee University, 1954; MA, George Peabody College for Teachers, 1959; PhD, Catholic University of America, 1969.
- Klein, Gary A.**, Clinical Assistant Professor
BS, Loyola College, 1966; MS, University of Maryland, 1970.
- Kniffin, Lynn**, Clinical Assistant Professor
AB, University of Akron, 1952; MSW, University of Maryland, 1968.
- Knowles, Frederick**, Assistant Professor
BA, Harvard University, 1964; MD, University of Maryland, 1968.
- Kohlmeyer, Werner A.**, Clinical Associate Professor
MD, University of Göttingen, Germany, 1942.
- Kohn-Rabin, Nancy**, Assistant Professor
BA, Oberlin College, 1965; PhD, University of Chicago, 1971.
- Konkol, Robert A.**, Clinical Assistant Professor
BA, Franklin & Marshall College, 1973; MD, University of Maryland, 1977.
- Krajewski, Thomas F.**, Clinical Assistant Professor
BS, Loyola College, 1970; MD, University of Maryland, 1975.
- Kurland, Albert**, Research Associate
BS, University of Maryland, 1936; MD, 1940.
- Kutzer, Dennis J.**, Clinical Assistant Professor
BS, University of Maryland, 1971; MD, 1975.
- Lasson, Morris L.**, Assistant Professor (psychology)
BA, New Israel College, 1960; MA, Loyola College, 1962; PhD, Catholic University, 1966.
- Leaverton, David R.**, Associate Professor
BA, Colorado State University, 1958; MD, University of Colorado, 1961.
- Lebling, Clare M.**, Clinical Assistant Professor
BA, University of Maryland 1974; MSW, 1976.
- Lessey, Robert A.**, Clinical Instructor
BA, Yale University, 1966; MD, Columbia University, 1971.
- Levin, Leon A.**, Clinical Instructor
BS, University of Wisconsin, 1952; MD, 1956.

- Levy, Stephen**, Instructor (psychology)
BA, Johns Hopkins University, 1966; MA (equivalency), 1967.
- Lewis, Gail L.**, Instructor
BSN, University of Delaware, 1971; MSN, University of Maryland, 1976.
- Lewis, Harvey A.**, Clinical Assistant Professor
- Lion, John R.**, Professor
AB, Harvard University, 1960; MD, Albany Medical College of Union University, 1965.
- Lisansky, Ephraim T.**, Professor Emeritus
AB, Johns Hopkins Hospital, 1933; MD, University of Maryland, 1937.
- Lisansky, Sylvia**, Clinical Instructor
AB, Goucher College, 1936; MSW, University of Maryland, 1970.
- Logue, Andrew D.**, Clinical Instructor
BS, Yale University, 1960; MD, Johns Hopkins University.
- Long, S. Eugene**, Clinical Assistant Professor
BS, Wagner College, 1955; MD, George Washington University, 1959.
- Lopez, Rafael**, Clinical Assistant Professor
BA, University of Santa Domingo, 1963; MD, 1969.
- Lucco, Alfred A.**, Assistant Professor
BA, Brown University, 1959; MA, University of Chicago, 1963; PhD, 1965.
- Lynch, James J.**, Professor (psychology)
BS, Boston College, 1962; MA, Catholic University, 1964; PhD, 1965.
- Lynch, Thomas**, Clinical Assistant Professor
MB, BCh, University College of Dublin, Ireland, 1947; DPM, National University of Ireland, 1950.
- MacKay, Bryan**, Research Associate
BA, University of Maryland, 1973.
- Madden, Denis J.**, Assistant Professor
BA, Saint Benedict's College, 1963; Ordination, Saint Mary's School of Theology, 1967; MEd, Teacher's College, Columbia University, 1969; PhD, Notre Dame University, 1973.
- Madden, Nancy A.**, Instructor
BA, Reed College, 1973; MA, American University, 1978; PhD, 1980.
- Magruder, William W.**, Clinical Assistant Professor
BS, Mississippi State College, 1942; MD, Duke University, 1944.
- Mangano, Richard M.**, Research Associate
BS, Iona College, 1972.
- Manzanera, Elena I.**, Assistant Professor
MS, Columbia University, 1967.
- Maters, Patricia**, Instructor (psychiatric nursing)
SRN, Saint Bartholomew's Hospital, London, 1952.
- May, Gerald G.**, Assistant Professor
BA, Ohio Wesleyan University, 1962; MD, Wayne State University School of Medicine, 1965.
- McClelland, Paul**, Clinical Instructor
BA, Physics, Syracuse University, 1970; MD, University of Maryland, 1977.
- McCullars, Eva B.**, Instructor
BS, George Washington University, 1969; MS, 1972; MD, University of Maryland, 1976.
- McCullough, Duncan**, Associate
AB, Princeton University, 1950.
- McDaniel, Ellen**, Associate Professor
MD, University of Michigan, 1966.
- McDonald, Matthew**, Clinical Assistant Professor (psychology)
BA, University of Maryland, 1966; MA, 1969; PhD, 1971.
- McElroy, Evelyn**, Clinical Assistant Professor (psychiatric nursing)
BSN, University of Colorado, 1961; MS, University of Maryland, 1966; PhD, 1973.
- McLaney, Martha**, Assistant Professor (psychiatric social work)
BA, Towson State College, 1967; MSW, University of Maryland, 1968.
- Menitoff, Paul A.**, Instructor
BA, Harvard College, 1969; MD, Cornell University, 1973.
- Merlis, Daniel T.**, Clinical Instructor
BA, Hobart College, 1972; MSW, University of Maryland, 1975.
- Modarressi, Taghi M.**, Associate Professor
MD, University of Tehran, 1959.
- Monroe, Russell R.**, Professor and Chairman
BS, Yale University, 1942; MD, 1944.

- Morales-Ramos, Ubaldo**, Clinical Assistant Professor
MD, University of Puerto Rico, 1975.
- Morrison, Reed A.**, Instructor
BA, Franklin & Marshall College, 1972; PhD, Humanistic Psychology Institute, 1978.
- Mott, Thurman, Jr.**, Associate Professor
BS, Northwestern University, 1950; MD, 1952.
- Newman, Ruth G.**, Clinical Associate Professor (psychology)
BA, Rutgers University, 1937; MA, George Washington University, 1952; PhD, University of Maryland, 1958.
- Nospitz, Joseph D.**, Assistant Professor
BA, University of Louisville, 1943; MD, 1945.
- Nurco, David N.**, Research Professor of Social Work
BA, George Washington University, 1951; MA, University of Connecticut, 1954; DSW, Catholic University School of Social Work, 1969.
- Nyman, Gary**, Clinical Associate Professor
AB, Columbia College, 1963; MD, University of Virginia, 1968.
- O'Donnell, James J.**, Instructor (alcoholism counseling project)
- Okum, Marjorie**, Clinical Instructor
BA, University of Maryland, 1970; PhD, Catholic University, 1975.
- Oleynick, Harry A.**, Assistant Professor
BA, University of Pennsylvania, 1952; MD, University of Chicago School of Medicine, 1956.
- Olsson, James E.**, Clinical Assistant Professor
BS, University of Maryland, 1959; MA, Catholic University of America, 1962; PhD, 1967.
- Oppenheimer, Ruth**, Assistant Professor (child therapy)
BA, University of London, 1953.
- Ota, Kay**, Assistant Professor
BA, Guilford College, 1953; MS, College of William and Mary, 1956; PhD, Catholic University, 1965.
- Parks, Susan L.**, Research Associate
BA, Gettysburg College, 1976.
- Paskewitz, David A.**, Assistant Professor
BA, University of Minnesota, 1963; MS, University of Oklahoma, 1965; PhD, 1967.
- Patel, Bhupendrakamer M.**, Clinical Assistant Professor
MD, Medical College, Baroda, India, 1963.
- Penna, Manoel**, Clinical Associate Professor
BA, Paes de Carvalho College, 1955; MD, University of Para Brazil, 1961.
- Phillips, Jay**, Assistant Professor
BS, Tufts University, 1969; MD, University of Maryland, 1974.
- Phillips, Sheridan A.**, Assistant Professor
BA, Swarthmore College, 1967; PhD, SUNY at Stony Brook, 1974.
- Platman, Stanley R.**, Clinical Professor
MD, Queens University, Belfast, 1963.
- Plaut, S. Michael**, Associate Professor (psychology)
BA, Adelphi University, 1965; PhD, University of Rochester, 1968.
- Powell, Albert M., Jr.**, Clinical Assistant Professor
MD, University of Maryland, 1948.
- Press, Leonard**, Assistant Professor
BA, Johns Hopkins University, 1952; MSSA, Western Reserve University, 1957.
- Pulver, Anne**, Research Associate
BA, Boston University, 1970; MHS, Johns Hopkins University, 1974.
- Rappeport, Jonas R.**, Clinical Associate Professor
BS, University of Maryland, 1948; MD, 1952.
- Redmond, Anne**, Assistant Professor
BA, Johns Hopkins University, 1969; MD, 1972.
- Reed, Julian**, Clinical Assistant Professor
BS, University of Maryland, 1948; MD, 1952.
- Regan, Bruce**, Assistant Professor
BA, Harvard University, 1970; MD, University of Maryland, 1974.
- Ressin, Ellen**, Research Associate
BA, University of Maryland, 1969; MA, Columbia University, 1971.
- Rey, Alix**, Assistant Professor
Arts and Sciences, Saint Louis De Gonzague; MD, Universidad Nacional Autonoma De Mexico, 1968.

- Roberts, Joan**, Assistant Professor
BA, Washington Square College, 1963; MEd, Columbia University, 1969; MA, University of Maryland, 1971, PhD, 1973.
- Robinson, Kent**, Assistant Professor
BA, University of Cincinnati, 1943; MD, 1947.
- Robinson, Lisa**, Assistant Professor
BSN Ed, American University, 1961; MS, University of Maryland, 1965; RN, 1969; PhD, Union Memorial Hospital, 1970.
- Rodbell, Stanley L.**, Assistant Professor
BS, University of Pennsylvania, 1955; JD, Yale University, 1958; MLA, Johns Hopkins University, 1971; MSW, University of Maryland, 1975.
- Rodgers, Robert L.**, Research Associate
BS (nursing), University of Baltimore, 1978.
- Romero, Eduardo**, Assistant Professor
MD, Universidad Nacional, Cordoba, Argentina, 1962.
- Rosenberg, Anna**, Clinical Assistant Professor
BA, Drew University, 1956; MS, Purdue University, 1957; PhD, 1961.
- Rubin, Jeffrey S.**, Instructor
BA, University of Maryland, 1971.
- Rudnick, Barry F.**, Assistant Professor
BS, Union College, 1968; MD, Albany Medical College, 1972.
- Rudo, Andrew B.**, Assistant Professor
BA, University of Pennsylvania, 1971; MD, University of Maryland, 1975.
- Sakles, Constantine J.**, Associate Professor
AB, University of Rochester, 1955; MD, Yale University, 1959.
- Sarles, Richard M.**, Associate Professor
BS, Georgetown University, 1957; MD, University of Maryland, 1961.
- Saylor, Gary B.**, Research Associate
BS, Houghton College, 1973; MS, Case Western Reserve University, 1976.
- Savage, Charles**, Clinical Professor
BA, Yale University, 1939; MS, University of Chicago, 1943; MD, 1945.
- Schnaper, Nathan**, Clinical Professor
BS, Washington College, 1940; MD, University of Maryland, 1949.
- Schonfield, Jacob**, Clinical Assistant Professor
BA, Yeshiva University, 1950; MA, University of Minnesota, 1951; PhD, University of Chicago, 1960.
- Schreder, Richard H.**, Assistant Professor (psychiatric social work)
BA, University of Notre Dame, 1966; MSW, University of Maryland, 1972.
- Schulz, Clarence G.**, Clinical Instructor
MD, Washington University, 1945.
- Schwartz, Lloyd**, Clinical Assistant Professor (clinical psychology)
BA, Pennsylvania State University, 1947; MS, 1946; PhD, American University.
- Schwartz, Robert**, Research Assistant Professor
BS, University of Vienna, 1968; PhD, 1974.
- Segal, Avrom Carl**, Clinical Assistant Professor
BS, Temple University, 1956; MS, 1958; MD, Jefferson Medical College, 1962.
- Seligman, Garry A.**, Clinical Assistant Professor
BA, Johns Hopkins University, 1971; MD, Georgetown University, 1975.
- Scratton, Joan M.**, Associate Professor (psychiatric social work)
BA, University of Melbourne, 1963; MSW, Smith College of Social Work, 1965.
- Seman, Patti**, Instructor
BA, Loyola College, 1972; MSW, University of Maryland, 1974.
- Shapiro, Solomon**, Clinical Assistant Professor (clinical psychology)
BS, Towson State College, 1942; MA, Johns Hopkins University, 1948; PhD, University of Maryland, 1952.
- Shear, Howard J.**, Assistant Professor (psychology)
BA, University of Maryland, 1950; MA, University of Texas, 1953; PhD, 1955.
- Sherlock, Michael**, Clinical Assistant Professor
BA, Stanford University, 1965; MD, University of Chicago, 1970.
- Shochet, Bernard**, Clinical Associate Professor
BS, University of Maryland, 1952; MD, 1954.
- Sidhu, Ajaib D.**, Associate
BS, Punjab University, India, 1943; MBBS, 1950; MD, University of Delhi, 1962.

- Siegmán, Aron W.**, Research Professor (psychology)
BA, City College of New York, 1952; University of Wisconsin, 1954; PhD, Columbia University, 1957.
- Sila, Basra**, Assistant Professor
BS, College of Saint Michael, Istanbul, Turkey, 1950; MD, University of Istanbul, 1956.
- Silver, Stuart B.**, Clinical Assistant Professor
BA, Johns Hopkins University, 1963; MD, 1966.
- Smith, Boylston**, Clinical Instructor
AB, West Virginia University, 1946; MD, University of Maryland, 1952.
- Solomon, Kenneth**, Assistant Professor
BA, New York University, 1967; MD, SUNY at Buffalo, 1971.
- Starr, Stephen D.**, Instructor
BA, University of Massachusetts, 1964; MS, Springfield College, 1966; CAS, 1966.
- Steinbach, Irvin L.**, Clinical Instructor (clinical psychology)
BS, University of Maryland, 1953; MA, George Washington University, 1966.
- Stephens, Joseph**, Professor
AB, Johns Hopkins University, 1948; MD, 1952.
- Stimely, Patricia**, Research Associate
Lutheran School of Nursing, 1961.
- Stolk, Madelyn**, Research Associate
BA, Bates College, 1969.
- Student, David**, Clinical Assistant Professor
BA, SUNY at Buffalo, 1971; MA, University of Pittsburgh, 1975.
- Styrt, Jerome**, Clinical Associate Professor
BS, University of Chicago, 1940; MD, 1945.
- Strauss, Milton E.**, Research Associate Professor
BS, City College of New York, 1962; AM, Harvard University, 1965; PhD, 1967.
- Summerfelt, Ann**, Research Associate
BA, University of Illinois, 1975.
- Tamminga, Carol A.**, Associate Professor
BA, Calvin College, 1966; MD, Vanderbilt University, 1971.
- Taylor, Ronald J.**, Clinical Assistant Professor
AB, Washington and Jefferson College, 1966; MS, Yeshiva University, 1968; MD, University of Maryland, 1973.
- Terry, Jane**, Clinical Instructor
BA, College of William and Mary, 1967; MD, University of Kansas, 1971.
- Thornton, Doris S.**, Assistant Professor
BA, Meredith College, 1957; MD, University of Maryland, 1974.
- Tiegel, Stuart**, Instructor
BS, George Washington University, 1969; MSW, University of Maryland, 1975.
- Tormey, Judith**, Assistant Professor
BA, Barnard College, 1961; PhD, Columbia University, 1970.
- Tuerk, Isadore**, Associate Professor
BS, Johns Hopkins University, 1930; MD, University of Maryland, 1934.
- Ulgar, Ulku**, Clinical Assistant Professor
MD, University of Istanbul, 1959.
- Urbaitis, John C.**, Clinical Assistant Professor
MD, Cornell Medical College, 1966.
- Vauls, Kersley**, Instructor
BS, Morgan State College, 1958; MS, 1967.
- Von Muehlen, Lutz**, Assistant Professor
BS, University of Frankfurt, 1954; MD, University of Munich, 1958.
- Wagman, Althea**, Research Associate
BS, College of William and Mary, 1954; MA, Columbia University, 1959; PhD, South Illinois University, 1966.
- Wallis, Kathryn D.**, Assistant Professor
BS, University of Southwestern Louisiana, 1967; MS, University of Maryland, 1976.
- Walls, Philip**, Clinical Assistant Professor
AB, Bowdoin College, 1964; MD, Tufts University, 1968.
- Warschawski, Peter**, Associate Professor
BA, Johns Hopkins University, 1969; MA, 1973; MEd, 1974; PhD, University of Zurich, 1978.
- Waterbury, Marcia**, Clinical Assistant Professor
BA, Texas Technological University, 1966; MD, University of Texas, 1970.

- Weinstein, Gerald E.**, Clinical Assistant Professor
BA, Syracuse University, 1949; MD, 1954.
- Weinstein, Stanley**, Assistant Professor (psychiatric social work)
BA, University of Maryland, 1965; MSW, 1968.
- Weintraub, Walter**, Professor
BA, New York University, 1948; MD, University of Geneva, 1951.
- Weir, W. Douglas**, Associate Professor
AB, Saint Johns College, 1958; MD, University of Maryland, 1964.
- Weisman, Maxwell N.**, Clinical Assistant Professor
BA, City College of New York, 1930; MA, Columbia University, 1931; MD, University of Amsterdam, 1958.
- Whitfield, Charles L.**, Assistant Professor
BA, University of North Carolina, 1960; MD, 1965.
- Wilkinson, Edwina**, Research Associate
- Wimmer, William C.**, Clinical Assistant Professor
BA, Western Maryland College, 1961; MD, University of Maryland, 1965.
- Woodruff, Douglas B.**, Clinical Instructor
AB, Dartmouth College, 1969; MD, University of Maryland, 1973.
- Woolsey, Susan F.**, Assistant Professor
BSN, Washington University, 1948; MS, University of Maryland, 1968; PNP, 1976.
- Wurmser, Leon**, Professor
MD, University of Zurich, 1955.
- Zebal, Bradley**, Instructor
BA, Stanford University, 1967; MSW, University of Maryland, 1974.

RADIATION THERAPY

- Berman, Harry**, Adjunct Associate Professor (Radiation Oncology)
BS, Northwestern University, 1932; MD, 1933.
- Cheung, Augustine Yin-Pan**, Research Associate Professor (Radiation Research)
BS, University of Maryland, 1969; MS, 1971; PhD, 1973.
- Contrera, Joseph F.**, Adjunct Associate Professor
BA, Washington Square College, 1960; MS, New York University, 1961; PhD, 1966.
- Harrison, George**, Associate Professor (Radiation Research)
BA, Tufts University, 1965; MS, University of Maryland, 1969; PhD, 1972.
- Kim, Ill-Soo**, Assistant Professor (Radiation Oncology)
Premedical Course, College of Science and Engineering, Yonsel University, Seoul, Korea, 1963; MD, 1967.
- Kubiczek, Elizabeth**, Research Associate (Radiation Research)
MSc, University of Warsaw, 1967; MSc, University of Maryland, 1973.
- McCullough, Duncan**, Research Associate (Radiation Research)
AB, Princeton University, 1950; BSEE, Johns Hopkins University, 1973.
- McCullough, James**, Clinical Instructor (Radiation Oncology)
BS, University of Virginia, 1975; MS, 1976.
- Patanaphan, Vinita**, Assistant Professor (Radiation Oncology)
MD, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand, 1971.
- Prempre, Thongbliew**, Professor (Radiation Oncology)
MD, Siriraj Medical School, Thailand, 1958; PhD, Johns Hopkins University, 1968.
- Robinson, James E.**, Professor (Radiation Research)
BS, Utah State Agricultural College, 1947; MA, Washington University, 1949; PhD, 1955.
- Samaras, George M.**, Research Associate Professor (Radiation Research)
BSEE, University of Maryland, 1972; MS, 1974; PhD, 1976.
- Scott, Ralph M.**, Professor and Chairman
BS, University of Virginia, 1947; MD, Medical College of Virginia, 1950.
- Sewchand, Wilfred**, Assistant Professor (Radiation Oncology)
BSc, University of London, England, 1964; MA, Cambridge University, England, 1970; MPhil, University of Leeds, England, 1970; ScD, Johns Hopkins University, 1974.
- Slawson, Robert G.**, Associate Professor (Radiation Oncology)
BS, Morningside College, 1958; MD, State University of Iowa College of Medicine, 1962.
- Taylor, Stuart L.**, Professor (Radiation Research)
AB, Harvard College, 1951; MS, New Mexico State University, 1956; PhD, 1960.

- Tepper, Marcos**, Clinical Assistant Professor (Radiation Oncology)
BS, Colegio Nacional de Moron, Buenos Aires, 1955; MD, Escuela de Medicina de la Universidad de Buenos Aires, 1961.
- Viravathana, Thavinsakdi**, Assistant Professor (Radiation Oncology)
BS, Chulalongkorn University, Bangkok, 1960; MD, Siriraj Hospital, Mahidol University, Bangkok, 1964.

REHABILITATION MEDICINE

- Balsam, Frederick J.**, Clinical Assistant Professor
BS, College of the City of New York, 1931; MD, University of Lausanne, Switzerland, 1938.
- Basili, Annamaria G.**, Clinical Assistant Professor (speech pathology)
BA, Saint Joseph's College, 1965; MA, Columbia University, 1967; PhD, Purdue University, 1971.
- Cohen, B. Stanley**, Clinical Professor
MD, University of Maryland, 1947.
- Dankmeyer, Charles, Jr.**, Instructor (orthotics, prosthetics)
BS, New York University, 1967.
- Danoff, Jerome V.**, Research Assistant Professor
BES, Johns Hopkins University, 1968; MS, Pennsylvania State University, 1972; PhD, University of Maryland, 1977.
- Estruch, Sonia**, Clinical Assistant Professor
MD, University of Santo Domingo, 1954.
- Feliciano, Christine B.**, Assistant Professor
BS, University of Philippines, 1961; MD, 1964.
- Felsenthal, Gerald**, Adjunct Associate Professor
BA, New York University, 1963; MD, Albany Medical College, 1967.
- Gessner, John E.**, Associate Professor
BS, Loyola College, 1950; MD, University of Maryland, 1954.
- Goldfine, Lewis J.**, Associate Professor
MBBS (MD), Kings College and Hospital, University of London, 1960; DPhys Med, 1967.
- Grant, Albert**, Instructor
BS, University of Maryland, 1940; MD, 1943.
- Hendry, Marjorie**, Instructor
BS, University of Minnesota, 1941; MD, Medical College of Pennsylvania, 1953.
- Huang, Tai-San**, Clinical Assistant Professor
MD, Kaohsiung Medical College, Taiwan, 1961; MS, Graduate School of Washington, 1972.
- Lentz, George A., Jr.**, Associate Professor
AB, Johns Hopkins University, 1953; MD, University of Maryland, 1957.
- Raab, Kurt**, Associate Professor
MD, Medical School of the University of Vienna, 1955.
- Reinstein, Leon**, Associate Professor
BS, University of Maryland, 1964; MD, 1969.
- Reischer, Mark A.**, Adjunct Assistant Professor
MD, Wayne State University, 1973.
- Richardson, Paul F.**, Professor and Chairman
MD, University of Maryland, 1950.
- Rosen, Norman B.**, Assistant Professor
BA, Johns Hopkins University, 1959; MD, University of Maryland, 1963.
- Schonfield, Jacob**, Associate Professor (psychology)
BS, Yeshiva University, 1950; MA, University of Minnesota, 1951; PhD, University of Chicago, 1960.
- Shannon, Dorothy**, Instructor (speech pathology)
BA, Montclair State College, 1965; MS, Pennsylvania State University, 1966; PhD, University of Maryland, 1973.
- Spindler, Henry**, Assistant Professor
AB, Lehigh University, 1964; MD, New York University, 1968.
- Urusky, Walter**, Assistant Professor
AB, New York University, 1938; MD, Marquette University, 1942.
- Weiss, Thomas**, Instructor (psychology)
BA, Rutgers University, 1966; MS, North Carolina State, 1969; PhD, 1971.

SURGERY

Abbott, J. Douglas, Instructor

BS, American University, 1968; MD, University of Maryland, 1973.

Abrams, Robert C., Clinical Associate Professor

AB, Johns Hopkins University, 1935; MD, 1939.

Armiger, William G., Associate

BS, Loyola College, 1968; MD, University of Maryland, 1972.

Arnold, James G., Professor Emeritus, Neurosurgery

BA, University of North Carolina, 1925; MD, Johns Hopkins University, 1929.

Attar, Safuh, Professor

BA, American University of Beirut, Lebanon, 1947; MD, 1951.

Badder, Elliott M., Associate Professor

BA, University of Pennsylvania, 1963; MD, Thomas Jefferson Medical College, 1957.

Baker, Dole P., Assistant Professor

BA, Harvard University, 1961; MD, Jefferson Medical College, 1965.

Ballesteros, Ruben F., Associate

MD, University of the Philippines, 1964.

Bashirelahi, Nasir, Assistant Professor, Urology

BS, Tehran University, 1960; PharmD, 1962.

Baughner, William H., Assistant Professor

BS, Washington & Lee, 1968; MD, University of Virginia, 1972.

Berger, Bruce W., Assistant Professor, Urology

MD, BA, Cornell University, 1964; MD, Upstate Medical Center, Syracuse, 1968.

Bergmann, Frederick G., Instructor, Urology

AB, Cornell University, 1963; MD, Temple University, 1967.

Bialostozky, Franklin M., Instructor

BS, Brooklyn College, 1972; MA, Northwestern University, 1976.

Blanchard, Cyrus L., Professor

BA, Clark University, 1943; MD, George Washington University, 1946.

Blum, Stanley L., Instructor

BA, Lafayette College, 1961; MD, University of Maryland, 1965.

Bouchelle, W., Instructor

BA, Johns Hopkins University, 1967; MD, University of Maryland, 1971.

Breschi, Louis C., Assistant Professor

BS, Loyola College, 1958; MD, University of Maryland, 1962.

Browner, Bruce D., Instructor

BA, University of Rochester, 1969; MD, SUNY Downstate, 1973.

Busky, Stephen M., Instructor, Urology

AB, Hamilton College, 1964; MD, New York University, 1968.

Campbell, Edward W., Jr., Associate Professor

AB, Amherst College, 1954; MD, Hahnemann Medical College, 1958.

Chambers, Robert G., Clinical Assistant Professor

BS, Duke University, 1944; MD, 1945.

Cherry, Jerrie, Assistant Professor, Otolaryngology

BA, University of Virginia, 1951; MD, Johns Hopkins University, 1955.

Cicci, Regina L., Assistant Professor

BS, Kent State University, 1960; MA, Northwestern University, 1961.

Clark, Francis A., Jr., Assistant Professor

MD, University of Maryland, 1961.

Coker, Donald D., Assistant Professor

BS, Michigan State University, 1965; MD, University of Michigan, 1969.

Cole, Fred N., Instructor

BA, University of Virginia, 1952; MD, 1956.

Cook, David M., Instructor

BS, Ohio University, 1962; MD, University of Maryland, 1966.

Cowley, R Adams, Professor

MD, University of Maryland, 1944.

Cox, Everard, Associate Professor

BS, University of Utah, 1951; MD, University of Maryland, 1955.

Crosby, Robert M. N., Professor, Pediatric Neurosurgery

MD, University of Maryland, 1943.

Cunningham, Raymond M., Instructor

BA, Loyola College, 1935; MD, University of Maryland, 1939.

- Dagher, Fuad J.**, Professor
BA, American University of Beirut, Lebanon, 1954; MD, 1958.
- Decker, J. Scott**, Assistant Professor
BS, University of Illinois, 1957; MD, 1961.
- DeSilva, Jivaka**, Instructor
MBBS, University of Ceylon, 1965; FRCS, Royal College of Surgeons, 1972; FRCSE, 1979.
- Diamond, Liebe S.**, Associate Professor
AB, Smith College, 1951; MD, University of Pennsylvania, 1955.
- Didolkar, Mukund, S.**, Associate Professor
MBBS, Nagpur University, India, 1965; MS (Surg.) 1968.
- Doyle, Robert L.**, Assistant Professor
BS, Loyola College, 1959; MD, University of Maryland, 1964.
- Ducker, Thomas B.**, Professor
BA, University of Virginia, 1959; MD, 1963.
- Edwards, Charles C.**, Associate Professor
BA, Duke University, 1964; MD, University of Maryland, 1968.
- Elias, E. George**, Professor
MD, University of Cairo, 1957; MS, State University of New York, 1974; PhD, University of Buffalo, 1975.
- Engnoth, Milton L.**, Instructor, Otolaryngology
BS, University of Maryland, 1953; MD, 1957.
- Fallon, Graham**, Assistant Professor
BA, Holy Cross College, 1962; MD, Creighton University, 1966.
- Fletcher, Margaret M.**, Clinical Associate Professor
MD, University of Michigan, 1961.
- Fox, Madeline**, Instructor
BA, Queens College, 1966; MS, University of Michigan, 1967.
- Fraiji, Elie K.**, Associate
BS, University of Science, Montpeliers, France; MD, University of Paris.
- Friedler, Stanley**, Instructor
BS, University of Maryland, 1961; MD, 1965.
- Gadacz, Thomas R.**, Assistant Professor
BS, University of Notre Dame, 1962; MD, University of Maryland, 1966.
- Galleher, Earl P.**, Associate Professor
AB, Princeton University, 1949; MD, Johns Hopkins University, 1953.
- Gamble, James G.**, Assistant Professor
BA, Ohio State University; PhD, 1971; MD, University of Maryland, 1975.
- Gelber, Rene L.**, Assistant Professor
BA, Pomona College, 1959; MD, University of California, 1963.
- Goldstein, Robert B.**, Instructor
MD, University of Maryland, 1954.
- Gordon, Roger L.**, Associate
BA, Boston University, 1968; MD, University of Maryland, 1972.
- Gray, William C.**, Assistant Professor
BS, University of Maryland, 1969; MD, George Washington University, 1973.
- Green, David Charles**, Professor
BS, Saint Lawrence University, 1954; MD, State University of New York College of Medicine, 1954.
- Greenstein, George H.**, Assistant Professor
BA, Johns Hopkins University, 1941; MD, 1950.
- Gudwin, Arthur L.**, Assistant Professor
BS, Tufts University, 1959; MD, 1963.
- Haller, Alex J., Jr.**, Clinical Professor
BA, Vanderbilt University, 1947; MD, Johns Hopkins University, 1951.
- Hankins, John R.**, Associate Professor
BA, University of Virginia, 1945; MD, University of Maryland, 1948.
- Hart, Umberto**, Associate
BS, Emilio Prud'home School, 1954; MD, Santo Domingo Medical School, 1954.
- Haskins, Burke D.**, Clinical Instructor
BA, Ohio Wesleyan University, 1970; MD, University of Maryland, 1974.
- Hill, J. Laurance**, Associate Professor
BA, Ohio Wesleyan University, 1957; MD, Ohio State University, 1961.

- Hilliker, Elizabeth**, Instructor
BS, Washington University, 1965; MA, 1970; MD, 1970.
- House, Homer C.**, Assistant Professor
BS, Washington and Lee University, 1959; MD, George Washington University, 1964.
- Hubbard, Thomas B., Jr.**, Professor
BA, Princeton University, 1938; MD, Columbia University, 1942; PhD (surgery), University of Minnesota, 1952.
- Hull, Harry C.**, Professor
MD, University of Maryland, 1932.
- Jamaris, Joseph K.**, Instructor
BS, Loyola College, 1968; MD, University of Maryland, 1972.
- Jasion, Arthur**, Instructor
BS, University of Maryland, 1957; MD, 1959.
- Jaworski, Michael**, Clinical Instructor
MD, University of Maryland, 1973.
- Kalash, Suhayl S.**, Instructor
BS, American University of Beirut, 1969; MD, 1973.
- Kenzora, John E.**, Associate Professor
MD, University of Toronto, 1965.
- King, August D., Jr.**, Instructor
BS, University of Maryland, 1957; MD, 1959.
- Kuehl, Alexander**, Instructor
- Lancelotta, Charles J.**, Instructor
BA, Loyola College, 1964; MD, University of Maryland, 1968.
- Layne, Edward L.**, Instructor
BS, Ohio State University, 1961; MD, 1965.
- Leacock, Ferdinand S.**, Associate
BA, Columbia College, 1956; MD, Howard Medical College, 1960.
- Leonard, Larry**, Clinical Associate
BA, Johns Hopkins University, 1968; MD, 1971.
- Leveque, Hubert**, Assistant Professor
MD, University of Lausanne, Switzerland, 1969.
- Levine, Alan M.**, Assistant Professor
BA, Brown University, 1970; MD, Yale University, 1974.
- Lynn, William D.**, Assistant Professor
BA, Princeton University, 1940; MD, Johns Hopkins University, 1943.
- Macon, William Linus, IV**, Associate
AB, Princeton University, 1959; MD, Harvard Medical School, 1963.
- Manson, Paul N.**, Associate
BA, Northwestern University, 1964; MD, 1968.
- Mays, Howard B.**, Assistant Professor
MD, University of Maryland, 1935.
- McHold, Davis S.**, Instructor
BS, Moorehead University, 1962; MD, University of Maryland, 1967.
- McLaughlin, Joseph S.**, Professor and Acting Chairman
BS, Loyola College, 1954; MD, University of Maryland, 1956.
- Mech, Karl, Jr.**, Instructor
BA, Wesleyan University, 1964; MD, University of Maryland, 1968.
- Mech, Karl, Sr.**, Assistant Professor
BS, University of Maryland, 1932; MD, 1935.
- Mehler, George J.**, Associate
BA, New York University, 1959; MD, New York Medical College, 1963.
- Meyer, Paul D.**, Instructor, Neurosurgery
BS, University of Maryland, 1955; MS, George Washington University, 1956; MD, University of Maryland, 1960.
- Michael, Roger H.**, Associate Professor
BA, Oberlin College, 1953; MD, Western Reserve University, 1957.
- Miller, John F.**, Associate Professor
BA, Pennsylvania State University, 1938; MD, Jefferson Medical College, 1942.
- Minken, Stanley L.**, Assistant Professor
BS, University of Maryland, 1958; MS, George Washington University, 1959; MD, University of Maryland, 1963.

- Mir, Sidney**, Instructor
BS, University of Beirut, 1969; MD, 1974.
- Morgan, Thomas**, Professor
MB, Cambridge University, 1943; MD, University College Hospital Medical School, London, 1945.
- Morris, Don**, Assistant Professor
BA, University of Texas, 1968; MD, 1972.
- Moulton, Anthony L.**, Assistant Professor
AB, Bowdoin College, 1967; MD, Columbia University, 1971.
- Novin, Neil**, Clinical Assistant Professor
BA, New York University, 1951; MD, State University of New York, 1955.
- Ominsky, Barry E. L.**, Instructor
BS, University of Maryland, 1962; MD, 1966.
- Ordonez, Jorge R.**, Instructor
MD, San Carlos University, 1963.
- Orlando, Joseph**, Assistant Professor
- Ormsbee, Herbert, III**, Assistant Professor
BA, Lawrence University, 1970; MS, University of Wisconsin, 1972; PhD, 1974.
- Padussis, Constantine J.**, Associate
BS, University of Maryland, 1969; MD, 1973.
- Pardo, Juan M.**, Instructor
BS, Loyola College, 1965; MD, University of Maryland, 1970.
- Plasse, Jerome**, Instructor
AB, Columbia College, 1955; MD, New York University, 1959.
- Queral, Luis A.**, Assistant Professor
BS, Loyola College, 1969; MD, University of Maryland, 1974.
- Raneri, Anthony J.**, Instructor, General Surgery
BS, Villanova University, 1967; MD, Georgetown University, 1971.
- Reed, William P.**, Assistant Professor
AB, Harvard University, 1964; MD, 1968.
- Reichmister, Jerome P.**, Assistant Professor
BA, Johns Hopkins University, 1960; MD, University of Maryland, 1964.
- Rever, William B., Jr.**, Assistant Professor
MD, University of Maryland, 1950.
- Robinson, Walker L.**, Assistant Professor
BS, Morgan State College, 1962; MD, University of Maryland, 1970.
- Russo, G. Lee**, Assistant Professor
AB, Loyola College, 1955; MD, University of Maryland, 1959.
- Salcman, Michael**, Associate Professor
BA, MD, Boston University, 1969.
- Sapre, Arun B.**, Instructor
MB, BS, Medical College, Nagpur University, India, 1960.
- Saul, Thomas**, Assistant Professor
BA, University of Cincinnati, 1970; MD, 1974.
- Shear, David Stephen**, Associate
BS, University of Pittsburgh, 1969; MD, University of Maryland, 1973.
- Shermeta, Dennis W.**, Associate Professor
MS, University of Michigan, 1961; MD, 1965.
- Shpritz, Louis A.**, Instructor
BS, University of Maryland, 1966; MD, 1970.
- Singer, John A.**, Assistant Professor
BA, Cornell University, 1963; MD, State University of New York, Downstate Medical Center, 1967.
- Sitaras, Panayiotis**, Instructor
BS, University of Maryland, 1967; MD, 1971.
- Smith, Harry William**, Instructor
AB, Providence College, 1965; MD, New Jersey College of Medicine, 1969.
- Smulyan, William I.**, Instructor
BA, Franklin and Marshall College, 1965; MD, University of Maryland, 1969.
- Soliman, Joseph A.**, Instructor
MD, College of Medicine, University of the Philippines, 1967.
- Sothoron, Warren H.**, Assistant Professor
BS, Juniata College, 1958; MD, University of Maryland, 1962.

- Spence, Kenneth F.**, Instructor
BS, Washington and Lee University, 1953; MD, University of Maryland, 1957.
- Stueber, Kristin**, Assistant Professor
AB, Mount Holyoke College, 1965; MD, University of Maryland, 1969.
- Su, Chi-Tsung**, Assistant Professor
MD, National Taiwan University, 1961.
- Suddhimondala, Chawalit**, Instructor
MD, Siriraj Hospital and Medical School, Bangkok, Thailand, 1960.
- Sugar, Fred N.**, Instructor
BS, University of Maryland, 1961; MD, 1965.
- Sullivan, Sullins G.**, Assistant Professor
BS, University of Oklahoma, 1933; MD, 1935.
- Suter, Charles M.**, Research Assistant Professor
BSEE, Drexel Institute, 1964; PhD (physiology), University of Maryland, 1969.
- Tansey, John J.**, Associate Professor
AB, Brown University, 1942; MD, University of Maryland, 1945.
- Thomas, Claudia**, Clinical Associate
BA, Vassar College, 1971; MD, Johns Hopkins University, 1975.
- Thompson, Raymond K.**, Professor, Neurosurgery
BS, University of Maryland, 1937; MD, 1941.
- Tortolani, Edmund C.**, Instructor
BA, Brown University, 1964; MD, Yale University, 1968.
- Turney, Stephen Z.**, Associate Professor
BS, John Carroll University, 1955; MD, Georgetown University, 1959.
- Weiner, Israel H.**, Assistant Professor
BA, Johns Hopkins University, 1949; MD, University of Maryland, 1953.
- Whitten, Thomas V.**, Associate
BS, Mount Saint Mary's College, 1968; MD, University of Maryland, 1972.
- Wilensky, Robert J.**, Instructor
BA, University of Michigan, 1962; MD, 1966.
- Wilhelmsen, Hans R.**, Assistant Professor
DDS, University of Maryland, 1955; MD, 1959.
- Winakur, Stuart**, Instructor
BS, University of Maryland, 1963; MD, 1968.
- Yeager, George H.**, Professor Emeritus
BS, University of West Virginia, 1925; MD, University of Maryland, 1929.
- Young, John D., Jr.**, Professor
BA, Bridgewater College, 1938; MD, University of Maryland, 1941.

STUDENT ROSTER



Class of 1980*

AIKEN, BRADLEY/Boston University/Sinai Hospital, Baltimore
ALLEN, DAVID/Pennsylvania State University/Union Memorial Hospital, Baltimore
AMMLUNG, ROBERT/Indiana University, Bloomington/Maryland General Hospital, Baltimore
ANSHER, MICHAEL/University of Maryland, College Park/University of Maryland Hospital
ARTWOHL, ROBERT/University of Maryland, Baltimore County/University of Maryland Hospital
ATAGUN, MEHTAP/Johns Hopkins University/University of Maryland Hospital
BAINUM, MARK/Southern Missionary College/University of Hawaii
BAYNE, MELVIN/Catholic University of America/Georgetown University, D.C.
BELL, BARBARA (WEI)/William and Mary College/Thomas Jefferson University, Philadelphia
BELL, LOUIS/Johns Hopkins University/Hahnemann Medical College and Hospital, Philadelphia
BRAGER, MYLES/University of Maryland, College Park/Hospital of the University of Pennsylvania, Philadelphia
BROWN, DONALD/Howard University/Grady Memorial Hospital, Atlanta
BROWN, LAWRENCE/Johns Hopkins University/University of Maryland Hospital
BRUNNER, DOUGLAS/University of Chicago/University of Maryland Hospital
BRYANT, DUANE/University of Maryland, College Park/Maryland General Hospital, Baltimore
BUSKIRK, ERIC/Georgetown University/University of Maryland Hospital
BUTLER, FRANCIS/Loyola College/Washington University, St. Louis
CAMPBELL, TERENCE/Duke University/Medical College of Pennsylvania, Philadelphia
CAPUTO, GREGORY/University of Delaware/Thomas Jefferson Hospital, Philadelphia
CARROLL, DOUGLAS/Yale University/Union Memorial Hospital, Baltimore
CASCIO, WAYNE/Johns Hopkins University/North Carolina Memorial Hospital, Chapel Hill
CERVENKA, ROBERT/Emory University/University of Chicago Clinics
CHAYT, KAREN/Yeshiva University/Children's Hospital of Philadelphia
CHEKAN, GEORGE/Bucknell University/Washington Hospital Center
CHEN, JANE/Radcliffe College/William Shands Hospital, Gainesville
CHISOLM, DANIEL/Columbia Union College/Prince George's General Hospital, Cheverly
COHEN, HARRIET/University of Maryland, College Park/St. Agnes Hospital, Baltimore
COON, PATRICIA/Marquette University/Baltimore City Hospitals
COOPER (FREIMAN), MOSHAY, University of Maryland, College Park/University of Maryland Hospital
CRAGWAY, ROY/Morgan State University/South Baltimore General Hospital
CRAWFORD, JOSEPH/Ohio State University/Medical College of Virginia, Richmond
CRUTE, CATHERINE/Gettysburg College; Catholic University/University of Massachusetts, Worcester
CYLUS, KIRK/Johns Hopkins University/Sinai Hospital, Baltimore
D'ANTONIO, RICHARD/Washington and Lee University/Wilford Hall-Air Force, San Antonio
DAVIS, WINTHROP/Franklin and Marshall University/University of Maryland Hospital
DEDRICK, DALE/University of Maryland, College Park/University of Michigan, Ann Arbor
DICKMAN, CRAIG/University of Maryland, College Park/Washington Hospital Center, D.C.
DODDS, ANGUS/Johns Hopkins University/Williamsport Hospital, Pennsylvania
DRIGGS, DARRYL/Brigham-Young University/Wesley Medical Center, Wichita
DRISCOLL, PAUL/University of Maryland, College Park/St. Francis Hospital-Indiana University, Beech Grove
DUNLAVEY, MARGARET/University of Maryland, College Park
DURKIN, MAUREEN/University of Maryland, College Park/South Baltimore General Hospital
EBY, MARGARET/Loyola College/Union Memorial Hospital, Baltimore
EHRlich, SONIA/Radcliffe College/Boston City Hospital
FALLOON, JUDITH/Ohio State University/Barnes Hospital, St. Louis
FERGUSON, DALE/Wilmington College/Franklin Square Hospital, Baltimore
FIASTRO, JAMES/Loyola College/Thomas Jefferson University, Philadelphia
FISHBEIN, DAVID/University of Maryland, College Park/Union Memorial Hospital, Baltimore
FOX, KENNETH/Occidental College/University of Utah, Salt Lake City
FOXWELL, MILFORD/University of Maryland, College Park/Washington Hospital Center, D.C.
FRANKS, DAVID/University of Maryland, College Park/Thomas Jefferson University, Philadelphia
FRIDIE, DONNA/Spelman College/University of Maryland Hospital
FRIDIE, INGA L./Johns Hopkins University/George Washington University, D.C.
FRYE, DONALD/George Washington University/William Shands Hospital, Gainesville
GALITZ, RICHARD/University of Maryland, College Park/Eastern Virginia Graduate Medical Center, Norfolk
GATTO, VINCENT/American University/Case Western Reserve Hospital, Cleveland
GELLETLY, GRACE/University of Maryland, College Park/University of Maryland Hospital

* Name/Undergraduate Institution/Internship

GELMAN, ALAN/University of Pennsylvania/Michael Reese Hospital, Chicago
 GINSBERG, ROBERT/Vassar College/Shadyside Hospital, Pittsburgh
 GOFREED, DEBORAH/Duke University/George Washington University, D.C.
 GOLDBERG, ANDREW/Dartmouth College/Providence Hospital, Portland
 GOLDKIND, LAWRENCE/University of Pennsylvania/University of Maryland Hospital
 GOLDMARK, MARCIA (PARGAMENT)/University of Maryland, College Park/Washington Hospital Center, D.C.
 GOLUEKE, PETER/University of Maryland, College Park/St. University-Kings County Medical Center, Brooklyn
 GRIMM, SAMUEL/University of Maryland, College Park/National Naval Center, Bethesda
 HARRIS, HARRY/University of Maryland, Baltimore County/Maryland General Hospital, Baltimore
 HEINEN, ROBERT/University of Minnesota, St. Paul/University of Virginia Medical Center
 HELMAN, LEE/George Washington University/Barnes Hospital, St. Louis
 HENKE, ROBERT/Mount St. Mary's College/York Hospital, Pennsylvania
 HENRY, ANNE/Smith College/University of Maryland Hospital
 HERALD, GEOFFREY/Ohio State University/Mercy Hospital, Pittsburgh
 HILLEBRENNER, SUSAN/Johns Hopkins University/Kapiolani Children's Center, Honolulu
 HIMMELHEBER, MARK/University of Maryland, College Park/Sinai Hospital, Baltimore
 HIXON, DENA/Bridgewater College/Harrisburg Hospital, Pennsylvania
 HLADIK, KAREN/Towson State University/Baltimore City Hospitals
 HOFFMAN, MICHAEL/University of Maryland, College Park/Medical College of Virginia, Richmond
 HOUGHTON, JAN/Virginia Polytechnic Institute/University of Maryland Hospital
 HOYLE, CHARITA/University of Maryland, College Park/Franklin Square Hospital, Baltimore
 HUDDLESTON, CHRISTJON/Stanford University/Union Memorial Hospital
 HUHN, RICHARD/American University/Roger Williams General Hospital, Providence
 IKEDA, STEPHEN/George Washington University/University of Maryland School of Medicine, Department of Pharmacology
 JURIST, KENNETH/University of Maryland, College Park/Montefiore Hospital Center, New York
 KAPLAN, M. LAWRENCE/Hofstra University/Washington Hospital Center, D.C.
 KARWACKI, JEROME/Loyola College/Brooke Army Medical Center, San Antonio
 KELLNER, MIRIAM/Albertus Magnus College/Yale-New Haven Medical Center, Connecticut
 KEMERER, VERNE/University of South Florida/University of Maryland Hospital
 KESSLER, MICHAEL/George Washington University/Sinai Hospital, Baltimore
 KING, JAMES/University of Maryland, College Park/University of Maryland Hospital
 KIRKWOOD, CHRISTINE/University of Maryland, College Park/Orlando Hospital, Florida
 KLEIMAN, JEFFREY/Emory University/Cincinnati General Hospital, Ohio
 KLEIN, DAVID/University of Maryland, College Park/North Carolina Memorial Hospital, Chapel Hill
 KUNZE, KENNETH/University of Maryland, College Park/Mercy Hospital, Baltimore
 LAESSIG, SUSAN/Cornell University/Washington Hospital Center, D.C.
 LAMM, WILLIAM/University of Maryland, Baltimore County/University of Maryland Hospital
 LAPINSKY, PETER/Colgate University/Mercy Hospital, Baltimore
 LEE, BARRY/Harvard University/Providence Hospital, D.C.
 LEE, CHARLES/University of Maryland, College Park/University of Maryland Hospital
 LEESON, MARK/West Virginia Wesleyan College/SUNY Upstate Medical Center, Syracuse
 LERNER, BRIAN/University of Maryland, College Park/University of Maryland Hospital
 LIPIN, THOMAS/Loyola College/University of Maryland Hospital
 LIVENGOD, JOHN/William and Mary College/Baylor College Affiliate, Houston
 MAGGIN, ROBERT/University of Maryland, College Park/Mercy Hospital, Baltimore
 MANOLIO, TERI ANN/University of Maryland, College Park/Boston City Hospital
 MARASA, RICHARD/Rutgers University/Prince George's General Hospital, Cheverly
 MARGOLIS, JOHN/Franklin and Marshall College/Mercy Hospital, Baltimore
 MARKOWITZ, DAVID/Pennsylvania State University/University of Michigan Hospital Center, Ann Arbor
 MARX, BARRY/University of Pennsylvania/Duke University Medical Center, Durham
 MATCHAR, DAVID/Princeton University/University of Maryland Hospital
 MATTHEWS, LAURIE/Western Maryland College/University of Maryland Hospital
 MC CAHILL, MARGARET/University of Maryland, College Park/Fairview General Hospital, Cleveland
 MC CAULEY, JEANNE/University of Delaware/Georgetown V.A. Hospital, D.C.
 MC DONNELL, MARK/Johns Hopkins University/University of Texas Affiliate Hospital, Houston
 MC KENNA, JAMES/University of Maryland, College Park/Malcolm Grove Air Force Base Medical Center, Maryland

MC LAUGHLIN, TIMOTHY/American University/Hartford Hospital, Connecticut
 MC LELLAN, ROBERT/Boston College/St. Agnes Hospital, Baltimore
 MIDDLETON, JOHN/Mount St. Mary's College/Harrisburg Hospital, Pennsylvania
 MILLER, STEVEN/University of Pennsylvania/Sinai Hospital, Baltimore
 MILLES, GARY/State University of New York, Albany/St. Agnes Hospital, Baltimore
 MINKOVE, JUDAH/Yeshiva University/University of Maryland Hospital
 MORAN, THOMAS/University of California, Santa Barbara/Union Memorial Hospital, Baltimore
 MORITZ, MICHAEL/University of Pennsylvania/Thomas Jefferson University Medical Center, Philadelphia
 MORRIS, EUGENE/Loyola College/University of Maryland Hospital
 NEWKIRK, MARY/University of Maryland, College Park/Martinez Veterans Administration Medical Center, California
 NICHOLSON, MYRON/University of Maryland, College Park/Providence Hospital, D.C.
 OKTAVEC, WILLIAM/Loyola College/Greater Baltimore Medical Center
 ORENSTEIN, ERIC/Georgetown University/Loyola University Affiliate Hospital, Maywood, Illinois
 OSBORN, KEITH/Western Maryland College/Johns Hopkins Hospital, Baltimore
 OTTO, DAVID/University of Maryland, College Park/University of Maryland Hospital
 OWENS, DAVID/Washington College/Case Western Reserve Hospital, Cleveland
 PALDER, STEVEN/University of Maryland, College Park/University of California Affiliate Hospital, Davis
 PAUL, CRAIG/Johns Hopkins University/Baylor College Affiliate Hospital, Houston
 PORTENOY, RUSSELL/Cornell University/St. Lukes Hospital Center, New York
 POSEY, GUY/University of Maryland, College Park/Siouxland Medical Center, Sioux City
 POWERS, CATHY/University of Maryland, Baltimore County/University of Maryland Hospital
 PRATT, MICHAEL/University of Maryland at Baltimore/Naval Regional Medical Center, San Diego
 REKEDAL, KIRBY/St. Olaf College/Johns Hopkins Hospital, Baltimore
 RICHARDSON, JAMES/University of Maryland, Baltimore County/University of Maryland Hospital
 RIGHETTI, MICHAEL/University of Santa Clara/University of California at Davis Affiliate Hospital
 RIVAS, PAUL/Loyola College/University of Maryland Hospital
 ROBERTSON, ROGER/University of Maryland, College Park/Charity Hospital-Tulane Hospital, New Orleans
 RODGERS, TIMOTHY/Johns Hopkins University/Hahnemann Medical College Hospital, Philadelphia
 ROGERS, WILLIAM/Johns Hopkins University/University of Maryland Hospital
 ROMANO, CHARLES/Frostburg State College/Wilmington Medical Center, Delaware
 ROSENBLOOM, ALAN/University of Maryland, Baltimore County/Kaiser Foundation-Santa Clara Medical Center, California
 ROSSE, RICHARD/University of Maryland, College Park/Georgetown University Medical Center, D.C.
 RUDISILL, DOUGLAS/Cornell University/SUNY Upstate Medical Center, Syracuse
 RUDOLPH, ROBERT/Marietta College/Baylor College Affiliate Hospital, Houston
 RUPPEL, JAMES/University of California, San Diego/University of Maryland Hospital
 RYKER, MARTHA/University of Maryland, Baltimore County/Greater Baltimore Medical Center
 SACKS, ALAN/Emory University/George Washington University, D.C.
 SCHARLING, CHRISTOPHER/University of Maryland, College Park/Washington Hospital Center, D.C.
 SCHEPP, ROBERT/Johns Hopkins University/Union Memorial Hospital
 SCHIFF, ROBERT/University of Maryland, College Park/Prince George's General Hospital, Cheverly
 SILLS, ALVIN/Loyola College/University of Maryland Hospital
 SILVER, KENNETH/University of Michigan, Ann Arbor/Good Samaritan Hospital, Baltimore
 SMOOT, ROY/University of Maryland, Baltimore County/University of Maryland Hospital
 SOKOLOW, MARC/University of Maryland, College Park/Mercy Hospital, Baltimore
 SOLOMON, LOUIS/Towson State University/University of Maryland Hospital
 SONDERGAARD, SALLY/Brown University/Sinai Hospital, Baltimore
 SPECHT, CHARLES/University of Pittsburgh/Case Western Reserve-Cleveland Metropolitan Hospital
 SPIEGEL, LADD/Amherst College/The New York Hospital
 STAMAS, PETER/University of Pennsylvania/Baltimore City Hospitals
 STARTZMAN, HENRY/Duke University/Maryland General Hospital, Baltimore
 SUNDERMIER, HENRY/California Polytechnic State University/University of Maryland Hospital
 TAKAI, SANDY/Washington College/Sinai Hospital, Baltimore
 TANNEBAUM, ERIC/University of Pittsburgh/University of Maryland Hospital
 TRINH, PHUONG/Massachusetts Institute of Technology/Medical College of Pennsylvania, Philadelphia

TUCKER, DOROTHEA STERN/Morgan State University
 TULLY, KATE/Villanova University/Franklin Square Hospital, Baltimore
 TURNER, PAUL/University of Maryland, College Park/Medical College of Wisconsin Affiliate, Milwaukee
 WALSH, JAMES/State University of New York, Albany/St. University-Kings County Medical Center, New York
 WEKER, JONATHAN/Harvard University/Yale-New Haven Medical Center, Connecticut
 WHITTAKER, PAUL/Duke University/Silas B. Hays Army Hospital, Fort Ord, California
 WIEGMANN, FRANCIS/Johns Hopkins University/Mercy Hospital, Baltimore
 WIGAND, GWENDOLYN/University of Maryland, College Park/Maryland General Hospital, Baltimore
 WILKES, CHARLES/William and Mary College/Eastern Virginia Graduate Medical Center, Norfolk
 WILLIAMS, CARTER/Morgan State University/Greater Baltimore Medical Center
 WOOLSTON, VICTORIA/Salisbury State College/Union Memorial Hospital, Baltimore
 WRIGHT-WILSON, CHERYL/University of Washington/Johns Hopkins Hospital, Baltimore

Class of 1981

ABBOTT, PETER/Dickinson College
 ARCHER, THOMAS/University of Richmond
 BALASUBRAHMANYAH, RAVI/University of Maryland, College Park
 BARKER, PETER/Stanford University
 BARTHEL, ROBERT/University of Maryland, Baltimore County
 BECKER, STEPHEN/University of Maryland, Baltimore County
 BERG, HOWARD/Emory University
 BIELEFELD, JOAN/William and Mary College
 BIERMAN, MORRIS/University of Maryland, College Park
 BLANCHARD, MICHAEL/Berry College
 BOLDEN, MARY CAROL/Loyola College
 BOLDEN, RICHARD/Washington and Lee University
 BOLLING, BRUCE/University of Maryland, College Park
 BOULAY, JR., JOSEPH/Duke University
 BOYCE, STEVEN/Johns Hopkins University
 BRIGGS, LINWOOD/Juniata College
 BUSSE, SUSAN/University of Maryland, College Park
 CALVO, BENJAMIN/George Washington University
 CAMPBELL, STEPHEN/Loyola College
 CANNON, MARY JO/George Washington University
 CAREY, RICHARD/University of San Francisco
 CARLTON, JAMES/University of Maryland, Baltimore County
 CARROLL, BARBARA/University of Maryland, College Park
 CHADO, HERBERT/University of Maryland, Baltimore County
 CHAMBERS, CHARLES/St. Bonaventure University
 CHANDLER, CANDACE/Duke University
 CHAPA, ROBERT/Valparaiso University
 CHOW, STEVE/Johns Hopkins University
 CLEMMENS, MICHAEL/Loyola College
 COHEN, DEBORAH/Wesleyan University
 COHEN, WILLIAM/Massachusetts Institute of Technology
 COLUCCIELLO, STEPHEN/University of Virginia
 CONLEY, ROBERT/Johns Hopkins University
 COPE, JAMES/LaSalle College
 COPELAND, IRA/University of Maryland, College Park
 COX, LLOYD/Emory University
 DEWITT, MICHAEL/West Virginia Wesleyan College
 DIER, GARY/University of Maryland, College Park
 DIPIETRO, VINCENT/Loyola College
 DOLLYMORE, MAURA/Catholic University of America
 DOMBROWSKI, WILLIAM/Rutgers University
 DOYLE, KEVIN/Johns Hopkins University
 DRUPIESKI, MARY/University of Maryland, College Park
 DUBYOSKI, PATRICIA/Fairfield University
 DUNCAN, ROBERT/Loyola College
 EGGLESEDER, JR., W. ANDREW/Tournd College

EHRlich, PAULA/University of Maryland, College Park
 FERRICK, DANIEL/St. Mary's Seminary and University
 FLACCAVENTO, FRED/Utah State University
 FLANIGAN, JOHN/University of Miami
 FRIEDLANDER, NEAL/University of Pennsylvania
 FRONC, ELIZABETH/Georgetown University
 FRYE, PATRICIA/Manhattanville College
 FULD, ROBERT/University of Maryland, College Park
 GAINES, WAYNE/University of Maryland, College Park
 GALITZ, LAWRENCE/University of Florida
 GAZAWAY, PRESTON/Florida A & M University
 GELKIN, MICHELLE/University of Maryland, College Park
 GESSOUROUN, MORRIS/University of Maryland, Baltimore County
 GIANNANDREA, LEIGH/Johns Hopkins University
 GLORIOSO, ROBERT/Geneva College
 GOLD, SAMUEL/University of Maryland, College Park
 GRIFFIN, HOPE/Cornell University
 GROFF, WARREN/University of Maryland, Baltimore County
 GRUSS, WILLIAM/University of Maryland, College Park/Carnegie Mellon, Virginia
 GUNN, ANDREW/Ohio Wesleyan University
 HATEM, JOANNE/Georgetown University
 HOLT, GEORGINA/University of Maryland, College Park
 HOOPER, CAROL/University of North Carolina, Chapel Hill
 HSIAO, JOHN/Yale University
 JACOBS, HOWARD/University of Maryland, College Park
 JACOBS, PAMELA/University of Maryland, College Park
 JAFFE, MARC/University of Maryland, College Park
 JASKULSKY, STEVEN/Western Maryland College
 JOCKLE, GLENN/University of North Carolina State, Raleigh
 JUDE, COLLEEN/Howard University
 KAHN, BRIAN/University of Pennsylvania
 KAHN, JOEL/George Washington University
 KEELER, MARGARET/St. Lawrence University
 KELMENSEN, EDWARD/University of Wisconsin
 KINGRY, KAREN/University of Maryland at Baltimore
 KIRWIN, KATHRYN/Bryn Mawr College
 KLEIN, JOEL/University of Maryland, College Park
 KNOTZ, JOSEPH/University of California, Los Angeles
 KORAT, ORLY/University of Maryland, College Park
 LAKSHMANAN, MARK/University of Maryland, College Park
 LAVALLE, GREGORY/University of Maryland, College Park
 LEIER, LINDA/College of Notre Dame
 LEUNG, RICHARD/University of Maryland, College Park
 LEVIN, RANDY/University of Maryland, College Park
 LEVITT, ROBERT/University of Maryland, Baltimore County
 LOVELESS, HERBERT/Johns Hopkins University
 LYG, PHILIP/University of Maryland, College Park
 MAGNER, ALICE/Harvard University
 MALINOW, ANDREW/Johns Hopkins University
 MANDELL, GORDON/University of Maryland, College Park
 MANN, STEPHEN/University of Maryland, College Park
 MARSHALL, CAROL/Goucher College
 MASIN, FRANKLIN/University of Maryland, College Park
 MASTRUCCI, MARY/Catholic University of America
 MATZ, SAMUEL/Johns Hopkins University
 MAURER, SCOTT/University of Maryland, College Park
 MC CLURE, DAVID/University of Maryland, Baltimore County
 MEYERS, DALE/Johns Hopkins University
 MILLER, DAVID/Washington College
 MISULIA, ANDREW/Mount St. Mary's College
 MONDELL, DEAN/Loyola College
 MULLEN, PAUL/Dickinson College

NEUMAN, KATHRYN/Bucknell University
 OKUN, MARC/Johns Hopkins University
 ONG, ROSE/University of Maryland, College Park
 OZANNE, STEPHEN/University of Maryland, College Park
 PANZARELLA, PHILIP/Loyola College
 PATTS, STEVEN, University of Maryland, Baltimore County
 PERTSCH, JAMES/Loyola College
 PIERPONT, BRIEN/University of Maryland, College Park
 PIVEN, JOSEPH/University of Maryland, College Park
 POLLACK, ALAN/University of Maryland, College Park
 POLLACK, DEBORAH/University of Maryland, College Park
 POTOCKI, LANCE/Georgetown University
 POWELL, JAMES/Towson State University
 RABOVSKY, MICHAEL/University of Pennsylvania
 REID, ROBERT/Colorado College
 REILLY, JOSEPH/St. Francis College
 REVER, LINDA/Goucher College
 RHODES, SHEILA/University of Pittsburgh
 RICHARDSON, LORINDA/University of Maryland, College Park
 RIGHETTI, MARILYN/St. Mary's College of California
 RINIS, DONNA/University of Maryland, College Park
 ROBINSON, HOWARD/University of Maryland, College Park
 RORISON, DAVID/Johns Hopkins University
 SANDERS, ANDREW/University of Maryland, College Park
 SAVETTA, RONA/Duke University/George Washington University
 SCHEIN, JAY/University of Pennsylvania
 SCHEPP, SUSAN/Johns Hopkins University
 SCHILLO, JOHN/Amherst College
 SCHIMPF, PATRICK/University of Maryland, College Park
 SCHNAPER, LAUREN/University of Maryland at Baltimore
 SHAW, LINDA/DePauw University
 SHEA, FRANK/Pennsylvania State University
 SHITAMA-BLOOM, YUMI/University of Maryland, College Park
 SIEGEL, HOWARD/University of Maryland, College Park
 SILBER, GARY/Washington University
 SINCLAIR, JOHN/University of Connecticut
 SKARBEEK, JERRY/University of Michigan, Ann Arbor
 SMITH, JEFFREY/Villanova University
 SMITH, SAMUEL/George Washington University
 SOKAL, DINA/Goucher College
 SONG, WOO KWANG/Lindenwood College
 SPENCER, LELAND/Northland College
 SPERLING, CARL/University of Maryland, Baltimore County
 SPIER, SCOTT/Brown University
 STEGA, MARK/University of Maryland, College Park
 STEINBERG, JOHN/Michigan State University
 STERRETT, MICHAEL/Michigan State University
 STOWELL, MICHAEL/Springfield College
 SUSKIN, MURRAY/Washington College
 TAYLOR, GREGORY/University of Maryland, Baltimore County
 THOMPSON, EDWARD/Randolph-Macon College
 TIETJEN, DAVID/Duke University
 TOMINACK, REBECCA/University of Maryland at Baltimore
 TOWNSEND, FRANCIS/Davidson College
 TRENT, KAREN/University of Pittsburgh
 ULMER, EMILY/Western Maryland College
 VALLE, PAUL/Loyola College
 VERDIN, PETER/University of Colorado
 VIGOREAUX, JOSE/University of Rio Piedras, Puerto Rico
 VOIGHT, ROBERT/University of Maryland, College Park
 WACK, ELIZABETH/University of Maryland, College Park
 WAMSLEY, BRIAN/University of Maryland, College Park

WATT, DAVID/University of Maryland, College Park
WATTERS, EDWARD/University of Maryland, College Park
WEBER, DAVID/University of Colorado
WEISS, LAWRENCE/University of Maryland, College Park
YOUSEM, SAMUEL/Duke University
ZIBILICH, GLORIA/Clarke College; University of Iowa
ZIMMERMAN, LAURIE/University of Maryland, College Park
ZWEIER, JAY/Brandeis University

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ADELSON, ANDREW J./Haverford College
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ALONSO, LYNN/Goucher College
ANSHER, ALAN/University of Maryland, College Park
ARNAUD, GUILLERMO/Massachusetts Institute of Technology
BAER, JOHN/Swarthmore College
BANERJEE, CHANDRALEKHA/Tufts University
BARBER, WAYNE/University of Maryland, College Park
BARNES, DAVID/Georgetown University
BARRY, HENRY/University of Maryland, College Park
BLANK, KENNETH/Georgetown University
BLICK, SAMUEL/University of North Carolina, Chapel Hill
BOLLENS, BRUCE/Amherst College
BOSTON, JOSE/Loyola College
BRANDCHAFT, PHYLLIS/University of Wisconsin, Madison
BRILL, CLARK/University of Maryland, Baltimore County
BROCKMAN, PAUL/Bucknell University
BROWN, MICHAEL/University of Maryland, College Park
BURKEN, MITCHELL/University of Michigan, Ann Arbor
BUSHWICK, BRUCE/University of Michigan, Ann Arbor
CAPON, STEPHEN/Cornell University
CARR, BETTY-ANN/University of Maryland, Baltimore County
CARR, ROBERT/University of Delaware
CARROLL, CHARLES/Williams College
CATANZARITI, FRANK/Johns Hopkins University
CHAPOLINI, ROBERT/Loyola College
CHIPCHIN, JUDITH/University of Maryland, College Park
CHRISTIANSON, RONALD/Lynchburg College
CHU, KEVIN/Princeton University
CONNELLY, JR., JOSEPH/University of Maryland, Baltimore County
CONWAY, THOMAS/Clemson University
COOL-FOLEY, ALICIA/Johns Hopkins University
COOLEY, BRIAN/University of Maryland, College Park
COOPER, ROBERT/Wabash College
COPELAND, LARRY/University of Maryland, College Park
COSTENBADER, CYNTHIA/University of Maryland, College Park
DAMALOUJI, JAMES/University of Pittsburgh
DARRELL, JOHN/Johns Hopkins University
DENNIS, PATRICK/University of Maryland, College Park
DIGRAZIA, JOHN/University of Maryland, Baltimore County
ECK, CHARLES/Loyola College
ELDER, DAVID/University of Virginia
ELIAS, JONATHAN/University of Maryland, College Park
ELLARD, GEORGE/Bowdoin College
FADDEN, ROBERT/Loyola College
FINKELSTEIN, JOSEPH/Albright College
FITZPATRICK, JAMES/Brown University
GARG, RENU/University of Maryland, College Park
GARTLAND, PATRICK/Northwestern University
GENOVESE, JR., JOSEPH/University of Maryland, College Park
GEVAS, STEVEN/West Virginia University

GIBBS, WARREN/State University of New York, Buffalo
 GILBERT, LINDA/University of Maryland, College Park
 GNATT, MICHAEL/University of Maryland, College Park
 GRAN, DAVID/University of Maryland, College Park
 GROLEAU, GEORGE/University of Maryland, College Park
 HADLEY, NANCY/Harvard University
 HALL, JAMES/University of Pennsylvania
 HARBAGE, PETER/University of Virginia
 HARRIS, MARK/Johns Hopkins University
 HICKS, CHARLES/Loyola College
 HIRSCHMAN, CORINA/George Washington University
 HOLT, EDWARD/Brown University
 HOLT, JAMES/Princeton University
 HOPE, DONALD/Villanova University
 HORNICK, DOUGLAS/St. Lawrence University
 HUNDEMER, KAREN/University of Maryland, College Park
 JACOBS, RONALD/University of Maryland, College Park
 JACQUES, LOUIS/Georgetown University
 JED, ERICA/University of Maryland at Baltimore
 JOHNSON, HOWARD/Rensselaer Polytechnic Institute
 JONES, MARY BETH/Catholic University of America
 KAUP, BRUCE/Stanford University
 KEARNEY, JAMES/University of Maryland, College Park
 KELLER, MARK/University of Maryland, College Park
 KELSEY, BEVERLY/University of Maryland, College Park
 KLEIN, JEREMY/University of Maryland, Baltimore County
 KRUKENKAMP, JR., IRVIN/University of Maryland, College Park
 KURLAND, DARRYL/Duke University
 KUSHNICK, RICHARD/University of Maryland, Baltimore County
 LAI, DONALD/University of Pennsylvania
 LAMPE, JOHN/University of North Carolina, Chapel Hill
 LANE, RICHARD/University of Maryland College Park
 LANOCHA, KARL/Towson State University
 LEBAR, RANDI/Cornell University
 LERMAN, CAROLE/University of Pennsylvania
 LEVINE, GARY/Johns Hopkins University
 LINTHICUM, RICHARD/Salisbury College
 LOVE, REBECCA/Johns Hopkins University
 LOWENTHAL, JONATHAN/University of Maryland, College Park
 LUCEY, CHARLES/Georgetown University
 LUTTGE, SCOTT/University of Maryland, Baltimore County
 MALONEY, DANIEL/University of Dayton
 MENDLOWITZ, ABBE/Johns Hopkins University
 MEYD, CONSTANCE/University of Maryland at Baltimore
 MIGHTY, HUGH/Georgetown University
 MILLER, JACK/University of Maryland, Baltimore County
 MILLER, JAMES/University of Maryland, College Park
 MILLER, JONOTHAN/University of Maryland, College Park
 MILLER, PAUL/University of Maryland, College Park
 MILLER, ROBERT/University of Maryland, College Park
 NEWMAN, JOHN/Washington and Lee University
 NICHOLSON, PHYLLIS/Valparaiso University
 O'CONNELL, STEPHEN/University of Notre Dame
 OKTAY, SERAP/University of Maryland, College Park
 PANAGOS, ANDREW/University of Maryland, College Park
 PARKER, STEVEN/Brown University
 PENTON, CATHY/University of Maryland, Baltimore County
 PERLMAN, DANIEL/St. Lawrence University
 PEROUTKA, ROBERT/Duke University
 PERRY, ROBERT/Lee College
 PHILLIPS, ROBERT/Lafayette College
 PRENDERGAST, MAUREEN/Loyola College

REDINGTON, JOHN/University of California, Berkeley
 REISINGER, III, ARTHUR/Western Maryland College
 RESHEW, BENJAMIN/University of Maryland, College Park
 RICHARDS, HENRY/Eisenhower College
 RICHTER, DONALD/Johns Hopkins University
 ROBINSON, RAMONA/University of Maryland, College Park
 ROCK, KENNETH/University of Maryland, College Park
 ROSELLE, DAVID/Bucknell University
 ROSENBLUM, BRUCE/University of Maryland, College Park
 ROWEN, SHERI/University of Maryland, College Park
 SACHS, GARY/University of Pennsylvania
 SACHS, REBECCA/University of Maryland, College Park
 SALVAGNO, RALPH/University of Maryland, College Park
 SAMARAS, THOMAS/University of Maryland, College Park
 SCHECHTER, RONALD/University of Maryland, College Park
 SCHREIBER, JONATHAN/Massachusetts Institute of Technology
 SCHWARTZ, HOWARD/University of Maryland, College Park
 SCHWARTZ, JERRY/LaSalle College
 SHAPIRO, BARBARA/St. John's College
 SHEAR, MICHAEL/Tufts University
 SHMORHUN, EUGENE/Swarthmore College
 SHUGOLL, WAYNE/Emory University
 SHUTTA, JOHN/Georgetown University
 SIEGEL, BRIAN/Duke University
 SIEGEL, ELIOT/University of Maryland, College Park
 SILVIA, JR., CHARLES/Johns Hopkins University
 SISK, LEONARD/Virginia Polytechnic Institute and State University
 SMIGOCKI, SUSAN/University of Maryland, Baltimore County
 SNYDER, LAWRENCE/Loyola College
 SOLTANI, SEPEHR/University of Maryland, College Park
 SPENCER, WENDY/University of Michigan
 SPURRIER, ELLEN/Loyola College
 STEPHENSON, LAURA/Western Maryland College
 STRAUSS, LEON/Johns Hopkins University
 STROMBERG, MARK/University of Maryland, College Park
 STROTHERS, III, HARRY/Indiana State University
 STRULL, DAVID/Oberlin College
 STUART, SUSAN/St. Lawrence University
 SURELL, JONATHAN/University of Maryland, College Park
 SWEREN, BENNETT/Brown University
 TANO, STEVE/Catholic University of America
 TAYLOR, DAVID/Western Maryland College
 THOMPSON, ALFRED/University of Colorado, Boulder
 TSENG, JENNIFER/Oberlin College
 TSENG, PAUL/Purdue University
 VARIPAPA, ROBERT/University of Maryland at Baltimore
 VAZQUEZ, EMILIO/George Washington University
 WAXMAN, DAVID/University of Maryland, College Park
 WHEELER, ARTHUR/University of Maryland, Baltimore County
 WHITAKER, NELLIE/University of Maryland, College Park
 WILEY, JOSEPH/Loyola College
 WITKIN, GARY/Wesleyan University
 WOLF, BARBARA/University of Southern Alabama
 YIN, DAVID LUNG/University of Maryland, College Park
 ZENKER, PAUL/University of Notre Dame

Class of 1983

ACKERLEY, MARY BETH/Harvard University
 ADAMS, JOSEPH ANDREW/University of Pennsylvania
 ADAMS, MARGARET CAROL/University of Maryland, Baltimore County
 AFROOKTEH, ALI JAMES/University of Maryland, Baltimore County

AGREE, MONICA LYNN/University of Maryland, College Park
 ARISUMI, DAVID NOBUO/University of Maryland, College Park
 ATWELL, EDDIE ALLAN/University of Maryland, College Park
 AUERBACH, ABRAHAM/Yeshiva University
 AUERBACH, BARRY SETH/University of Maryland, College Park
 BAKER, NANCY LORETTA/University of Maryland, College Park
 BEAUCHEMIN, JR., RICHARD RUDOLF/Loyola College/University of Maryland at Baltimore
 BELL, CHRISTINE JENNIFER/University of Maryland at Baltimore - Pharmacy
 BENNETT, STANLEY ROYCE/Muhlenberg College
 BERKOW, DON ALAN/Franklin and Marshall College
 BERNSTEIN, JEFFREY JAY/Georgia Institute of Technology
 BEVINS, CHARLES/University of Maryland, Baltimore County
 BLACKER, BRUCE AVRAM/Cornell University
 BLACKSTON, MARILYN Lee/Brown University
 BOLGIANO, EDWARD BURKET/University of Miami
 BOYER, II, GEORGE MILTON/Gettysburg College
 BRADLEY, CLARE BRIGID/George Washington University/Georgetown University
 BRANDON, BRENDA MAE/University of Maryland at Baltimore - Pharmacy/Johns Hopkins University, School of Hygiene & Public Health
 BRANDT, HARRY/Brandeis University
 BRASSARD, PETER GEORGE/University of Maryland, College Park
 BRETTSCHEIDER, FRAN LYNN/University of Maryland, Baltimore County
 BUESCHER, MONICA ANN/Johns Hopkins University
 BYRD, REBECCA ELLEN/C. W. Post College
 CAHILL, DAVID JOHN/Amherst College
 CAPLAN, MICHAEL ALAN/University of Maryland, Baltimore County
 CAVANAGH, JR., GEORGE BRINTON/Loyola College
 CHROMIAK, S. BLAISE/Johns Hopkins University
 CLARK, GREGORY LYNN/University California, Santa Barbara/University of Maryland, College Park
 CODY, JR., THORNTON S./Bates College/Johns Hopkins University, School of Hygiene & Public Health
 COLLINS, BEVERLY ANN/University of Maryland, College Park
 COLLINS, CRAIG ELLIOT/University of Massachusetts, Amherst/Boston University
 CUTCHIS, PROTAGORAS NICHOLAS/University of Maryland, College Park
 DANEKER, JR., GEORGE WILLIAM/Loyola College
 DEJTER, JR., STEPHEN WILLIAM/University of Maryland, College Park
 DONALDSON, JOANN/Catholic University of America
 DUBINSKY, THEODORE JAY/Johns Hopkins University
 DUCKETT, LUAT DANG/University of Maryland, College Park
 DUCKETT, MELVIN JAMES/Loyola College
 DURMOWICZ, ANTHONY GEORGE/Loyola College
 EASTMEN, JEFFREY OWEN/University of California, San Diego
 EGAN, MICHAEL FREDERICK/University of Virginia
 EGLSEDER, III, LUDWIG JOSEPH/University of Maryland, College Park
 EVANS, JOYCE/Yale University
 EVANS, SARAH HELEN/University of Michigan
 FEDDIS, GRANIA/Chatham College
 FISHER, MICHAEL JOSEPH/University of Maryland, College Park
 FRIEDMAN, NEIL BARRY/University of Maryland, College Park
 FULDA, GERARD JAMES/Loyola College
 GAFFEY, MICHAEL JAMES/Mont. Jr. College/Franklin and Marshall College/ George Washington University
 GALVIN, THOMAS/Washington and Lee University
 GOLDBERG, STUART HOWARD/University of Pennsylvania
 GOUGH, RICHARD LEE/University of Maryland, Baltimore County
 GRACE, GEORGE THOMAS/University of Maryland, Baltimore County
 GREENE, ROBERT WOLFE/Kenyon College/George Washington University
 GURBEL, PAUL ALFRED/Johns Hopkins University
 GUTBERLET, MARY JOHANNA/Loyola College
 HAGAMAN, SCOTT DENNIS/Johns Hopkins University
 HART, JR., JOHN/Johns Hopkins University

HEAPS, JAMES MASON/University of Maryland at Baltimore
 HEBB, DEBORAH/Duke University/University of Maryland at Baltimore
 HENDRICKS, CHARLES EDWARD/Metropolitan State College
 HERINGTON, DAVID STICKEL/University of Virginia
 HERR, JAMES DANIEL/Eastern Mennonite College
 HESS, DAVID CHARLES/Johns Hopkins University
 HOCHMAN, LAUREN DIANE/Duke University
 HORNICK, THOMAS RICHARD/Brown University
 HUANG, HARRY HUOTSIN/Brown University
 HUDSON, PAMELA BETH/Western Maryland College
 JAMES, IV, NATHANIEL WILLIS/Loyola College
 JENKINS, JEFFREY STEVEN/University of Maryland, College Park
 JENKINS, LISA RENEE/Mount St. Mary's College
 JOHNSON, DAVID PAUL/Wheaton College
 JONES, JACOB EDWARD/University of Maryland, College Park
 JUMBELIC, MARY IRENE/University of Maryland, Baltimore County
 KAEHLER, MARK ROSS/Stanford University
 KAMMERMAN, MICHAEL ROBERT/University of Maryland, College Park
 KATZENSTEIN, PAUL LOUIS/Macalester College
 KING, III, VICTOR FRANCIS/Virginia Technical Institute
 KOLKIN, SETH/Cornell University
 KOLODRUBETZ, RICHARD/University of Maryland, College Park
 KOTTAL, ROY ALFRED/University of Maryland, College Park
 KRAKOW, BARRY/Washington University, St. Louis
 KRAMER, THEODORE IAN/Washington University, St. Louis
 KRAVITZ, ALAN BRUCE/University of Delaware
 KUHN, GARY FRANCIS/Duke University
 LAFFERMAN, JEFFREY ALLEN/Towson State University
 LAVERSON, STEVE/University of Maryland, College Park
 LEVINE, IRA JAY/Dickinson College
 LINTHICUM, LANNETTE CATHERINE/Smith College
 LOEB, ROBERT GLASER/University of Maryland, College Park
 LYONS, KAREN/Loyola College
 MC EVOY, MICHAEL KEITH/Johns Hopkins University
 MALONE, THOMAS ELLIS/Boston College
 MARKOPOLOS, MELISSA ANN/Loyola College
 MAZEL, SARA FAY/George Washington University
 MECKLER, KAREN FRANCES/Brown University
 MENES, BAMBI LYNN/University of Michigan
 MERCHANT, RUSSELL/Western Maryland College
 MISHNER, CINDY ILENE/University of Maryland, College Park
 MONROE, JUDITH ANN/Eastern Kentucky University
 MOORE, JEFFREY KEVIN/Duke University
 MORIN, ROBERT WARD/Gettysburg College
 MOSS, DAVID STEVEN/Swarthmore College
 MOYLAN, BRIAN LEE/University of Maryland, Baltimore County
 MUELLER, GARRY LELAND/Loyola College
 NEVILLE, JR., RICHARD FRANCIS/University of Notre Dame
 NICHOLS, MARGARET MARY/University of Maryland, College Park
 O'CONNOR, CHRISTOPHER MICHAEL/University of Maryland, College Park
 O'FALLON, DENIS JOHN/Belmont Abbey College
 O'HORA, PATRICIA ANN/University of Maryland, College Park
 OKEN, HARRY ANDREW/University of Maryland, College Park
 ONESON, RUTH HANNON/University of Maryland, College Park
 PARKERSON, JR., JOHN BEVERIDGE/Davidson College
 PAUL, MARC HOWARD/Vanderbilt University
 PRINCE, THOMAS/George Washington University
 PROSSER, NANCY ELLEN/Loyola College
 PUTHAWALA, ANWER/Mount St. Mary's College
 RANDALL, NEIL WARREN/University of Virginia
 RAWLINGS, MARSDEN/Amherst College
 REGAN, MARK CHRISTOPHER/University of Maryland, College Park/Cornell University

RICHARDS, MARK EDWARD/Yale University
 ROBINSON, BRIAN EDWARD/Duke University
 RING, MICHAEL STEVEN/Princeton University
 ROCKLIN, MARC STEPHEN/Emory University
 ROGERS, JR., EDWARD QUIGLEY/Duke University
 ROSEMAN, DAVID HOWARD/University of Virginia
 ROSS, LOUIS ALBERT/Johns Hopkins University
 RUDOLPH, WILLIAM GARRY/University of North Carolina
 SAKAMOTO, RONALD NOBORU/University of Maryland, College Park
 SARACCO, SONIA MARIA/Loyola College
 SAUNDERS, JEANNINE LOIS/University of Maryland, Baltimore County
 SCHAMP, DAVID JULIAN/University of Maryland, Baltimore County
 SCHUSTER, RONALD HOWARD/Emory University
 SCIBILLIA, JAMES PETER/Johns Hopkins University
 SCOTT, ERIC WILLIAM/Johns Hopkins University
 SHERRY, DONALD LEE/University of Maryland, College Park
 SHIFFMAN, MARC SAMUEL/University of Maryland, College Park
 SHOCHET, ROBERT BRUCE/Brandeis University
 SHUTE, BARBARA SUE/University of Maryland, College Park
 SIDES, JAMES RANDALL/University of Maryland, College Park
 SIKORSKI, JR., STEPHEN JOHN/University of Maryland, College Park/University of Maryland at
 Baltimore
 SILBER, DAVID ALLAN/University of Pennsylvania
 SNYDER, KEVIN LEE/University of Maryland, College Park
 SPARKS, ALFRED DAVID/University of Maryland, Baltimore County
 SPIEGEL, JAMES DAVID/University of Maryland, College Park
 STEINER, HOWARD/University of Pennsylvania
 STEINBERG, LEWIS MARK/University of Maryland, College Park
 STENZLER, LEO MICHAEL/Potsdam State College
 STOIKO, MICHAEL AUSTIN/Colgate University
 STOKES, IV, JOHN EARL/Hampton Institute
 SUGG, NANCY KATHLEEN/Duke University
 TANG, NANCY LEE/Johns Hopkins University
 TODD, MICHAEL WELLINGTON/University of Maryland, College Park
 TROENDLE, AUGUST JAMES/Washington University, St. Louis
 UMHAU, WILLIAM FLEET/Davidson College
 VANIK, VICTORIA ANN/University of Maryland, Baltimore County
 VARGOT, S. LORRAINE DE LONG/University of Maryland, College Park
 VAUGHAN, MARGARET MARY/University of Maryland, College Park
 VISSING, ROBERT JOEL/Campbell College
 WALKER, MARK ALLAN/University of Maryland, College Park
 WALKER, ROBERT EDWARD/Vassar College
 WALTER, JR., EMMANUEL BENJAMIN/University of Notre Dame
 WANTZ, MARK LYWOOD/Columbia Union College
 WEAVER, KEVIN MICHAEL/University of Maryland, College Park
 WHITEHOUSE, MYRA JODY/University of Pennsylvania
 WHITMAN, JAY/University of Maryland, College Park
 WIEDEFELD, JR., ROBERT HOWARD/Loyola College
 WIEFERICH, JAMES ROGER/Dartmouth College
 WILLIAMS, JANET ELAINE/Ohio State University
 WILLIAMSON, BARBARA/Howard University
 WILLING, STEPHEN ALAN/Salisbury State College/Howard University
 WILSON, JOY LINDA/Howard University
 WONG, RODNEY ZEMAN/Brown University
 YOUNG, JOSEPH NOEL/University of Pennsylvania/Johns Hopkins University, School of Hygiene &
 Public Health
 ZAWODNY, ROBERT VINCENT/Johns Hopkins University
 ZAGORIA, RONALD JAY/Johns Hopkins University

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JOSEPH E ERONUSHAS
ASST PROFESSOR
FAMILY MEDICINE
FIRST FLOOR NORTH H